

Section 4 Previous Archaeological Research

This section reviews previous archaeological studies and finds pertinent to the City Center Section by land area. Kalihi and Kapālama are combined, as there have been very few studies and finds to date in these lands. The popular and convenient designation “Kaka‘ako” is used for the lands between urban Honolulu and Kālia of Waikīkī (see Section 3).

4.1 Kalihi and Kapālama

Commercial development in coastal Kalihi and Kapālama primarily occurred prior to the late 1970s, when archaeological investigations became standard during project planning and construction activities. As a result, few archaeological studies have been conducted in Kalihi and Kapālama (Figure 72 and Table 7). Three previous archaeological investigations have been conducted in the vicinity of the study corridor, both proximal to the proposed Middle Street Transit Center station (Hammatt and Shideler 2002; Dega and Davis 2005; and Folk et al. 1993). The following discussion as well as Figure 72 and Table 7 include all previous archaeological, cultural, and historical investigations in the general vicinity of the study area (generally moving from northwest to southeast).

City and County of Honolulu Bus Repair Shop Facility in Kalihi (Landrum and Klieger 1991, Hammatt and Folk 1992, Folk et al. 1993, Folk and Hammatt 1993)

Several studies were undertaken to fulfill the requirements of an environmental impact assessment for the proposed development of a 4.2-acre City and County of Honolulu Bus Repair Shop Facility at 711 Middle Street in Kalihi, O‘ahu (TMK 1-2-16:17). Beginning in 1991, the studies for this 4.2-acre lot included a historical literature search (Landrum and Klieger 1991); an archaeological inventory survey with subsurface testing (Folk et al. 1993); a burial treatment plan (Hammatt and Folk 1992); and a mitigation plan (Folk and Hammatt 1993). During the historical literature research, it was found that that project area was used extensively for habitation and agriculture from the pre-Contact period through the late 1800s. This was due in part to its proximity to the fishpond Loko Weli. The research did not identify any existing archaeological remains (Landrum and Klieger 1991:35). During the archaeological inventory survey, 19 trenches were excavated by backhoe. Three burials were exposed during testing, including two coffin burials and one burial without a coffin. The burials were situated between 0.6 to 1.1 m below the existing ground surface and were within a reddish-brown silty clay loam buried A horizon (former land surface), which was capped by modern fill. In addition, a cultural layer was identified. The burials and cultural layer were assigned Site # 50-80-14-4525 (Folk et al. 1993:28). Based on recommendations in the AIS, a burial treatment plan was written to address the human remains found, and a mitigation plan was written to address any potential impacts during facilities construction.

Vicinity of the Middle Street Transit Center Station (Bushnell and Hammatt 2002, Hammatt and Shideler 2002, Dega and Davis 2005)

In a locale adjacent to the southwest portion of the 711 Middle Street facility, including the immediate vicinity of the proposed Middle Street Transit Center Station, several studies were undertaken based on sites identified and information collected during the investigations for the Bus Repair Shop Facility. These studies included an archaeological assessment (Hammatt and

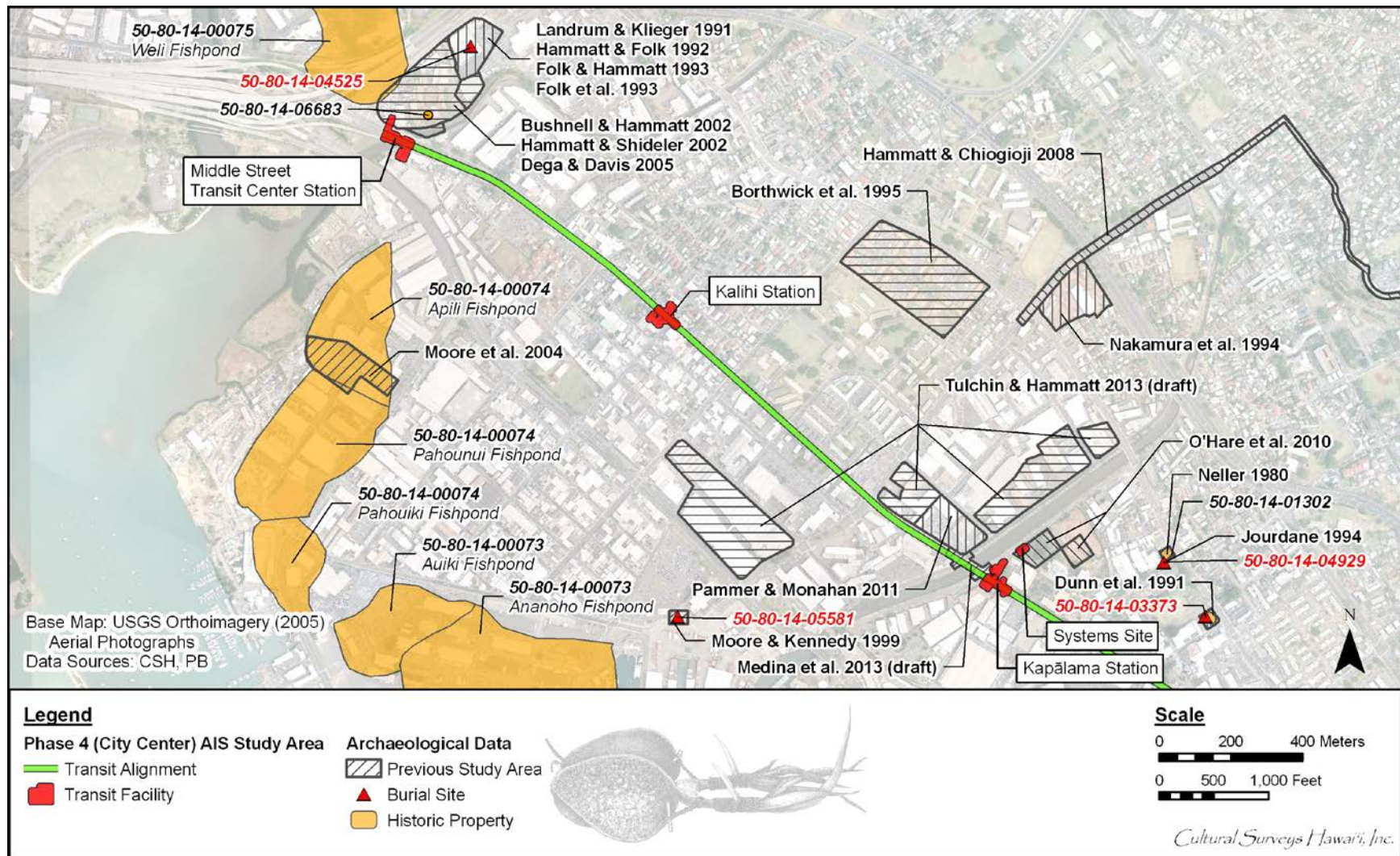


Figure 72. Previous archaeological studies in coastal Kalihi and western Kapālama in the vicinity of the study corridor

Table 7. Previous Archaeological Studies in the Vicinity of the Kalihi-Kapālama Portion of the Study Corridor (arranged chronologically)

Author	SIHP #50-80-14	Report Description and Findings
Neller 1980	-1302	SHPD site inspection at the Palama Fire Station (#-1302). A large charcoal deposit with basalt cobbles was observed. No further information available due to project backfilling.
Dunn, Kalima, Kalima, and Goodfellow 1991	-3373	During trenching at the Pālama Chevron Station (southwest corner of N. King St. and Robello Lane), very fragmentary skeletal remains believed to be post-Contact were encountered (MNI = 5 ?). Informant indicated area was a former cemetery.
*Landrum and Klieger 1991	NA	This was a historical literature and documents search for the City and County of Honolulu, Department of Transportation Services, Bus Unit Repair Shop Facility
*Hammatt and Folk 1992	-4525	A burial treatment plan
Folk, Crotty, and Hammatt 1993	-4525	Inventory survey - One historic property identified: SIHP #50-80-14-4525, a post-Contact cultural layer containing three human burials, two of which were in coffins.
*Folk and Hammatt 1993	-4525	A mitigation plan
Nakamura, Pantaleo, and Sinoto 1994	NA	An archaeological assessment of lands in Kapalama on the Corner of North King and Houghtailing Streets, Kapalama; no significant finds
Jourdane 1994	-4929	Inadvertent discovery of human skeletal remains during water line excavation in Austin Lane
Borthwick, Masterson, Creed, and Hammatt 1995	NA	An archaeological inventory survey of the Kamehameha Homes Project, Kapālama. There were no significant finds.
Moore and Kennedy 1999	-5581	This report documents the treatment of human remains inadvertently discovered during construction activities at Pier 40; documentation of a single <i>in situ</i> flexed burial (SIHP #50-80-14-5581) within naturally deposited alluvial sediments. It was determined that the burial was of post-Contact origin (pre-WWI) and most likely Hawaiian.
*Bushnell and Hammatt 2002	NA	Cultural impact assessment of the proposed Middle Street Transit Center (TMK: 1-2-18: 1, 2, 3, 8, 9 and 10) noted that "The project area has been devoted

Author	SIHP #50-80-14	Report Description and Findings
		to light industrial purposes for over a century.” Concerns over fishing and burials are noted.
Hammatt and Shideler 2002	NA	Archaeological assessment (literature review and field inspection) that recommended inventory survey
Moore, Bevan, and Kennedy 2004	-0074	Archaeological inventory survey of a property located along Ke‘ehi Lagoon and in the previous location of Pahounui and Apili Fishponds. Pollen and radiocarbon dating of a geotechnical boring sample documented sediments deposited prior to Hawaiian arrival in the islands.
Dega and Davis 2005	-6683	Inventory survey at the proposed Middle Street Intermodal Center - one historic property identified: SIHP #50-80-14-6683, a subsurface historic refuse pit and material remains associated with a slaughterhouse
Hammatt and Chiogioji 2008	NA	Archaeological inventory survey of a proposed Board of Water Supply Kalihi Beretania 24-Inch Water Main Project, Nu‘uanu and Kapalama - no finds but notes the Judd St. and Nu‘uanu Ave. bridges as possible historic properties
O’Hare, Shideler, and Hammatt 2010	NA	An archaeological literature review and field inspection report for the Honolulu Community College Advanced Technology Training Center Project noted exposures of midden and features in the banks of the Kapālāma Canal and the rich cultural landscape once present.
Pammer and Monahan 2011 (draft)		This archaeological literature review and field inspection for a Kapālāma Shopping Center Redevelopment Project included five test excavations. No historic properties were identified.
Medina et al. 2013 (draft)	NA	This archaeological monitoring report for traffic control signal improvements along Dillingham Boulevard characterized subsurface deposits as various layers of fill sediments on top of a layer of organically enriched pond deposit, on top of coral shelf. No historic properties or undisturbed cultural deposits were observed during monitoring.
Tulchin, J. and Hammatt 2013		This archaeological inventory survey plan for Kamehameha Schools commercial lands in the <i>makai</i> portion of Kapālāma included 13 preliminary test excavations. Three of these (Trenches 3, 4, and 5) were close to the <i>mauka</i> side of Dillingham Blvd. No historic properties were identified.

* Not included in Figure 79 – locations of previous research

Shideler 2002), a cultural impact assessment (Bushnell and Hammatt 2002), and a follow-up inventory survey with subsurface testing (Dega and Davis 2005). The Archaeological Assessment uncovered no new data regarding their project area; however, it was recommended that a program of subsurface testing be implemented to provide paleo-environmental information, particularly in regards to Waikulu Fishpond, which historical records indicated was under the southern half of the subject parcel (Hammatt and Shideler 2002). For the cultural impact assessment, concerns were expressed regarding the potential for more burials in that project area (Bushnell and Hammatt 2002:13). Scientific Consultant Services was contracted to perform the archaeological inventory survey with subsurface testing to mitigate the potential impacts to Waikulu Fishpond underlying the subject parcel. Although many sediment samples were taken, it was impossible to distinguish between naturally deposited stream sediments and fishpond sediments in that project area. Evidence of pre-Contact cultural activity was inconclusive. However, evidence of historic era industrial activity was abundant and was designated as SIHP #50-80-14-6683 (Dega and Davis 2005:42).

Sand Island Access Road (Moore et al. 2004)

Archaeological Consultants of the Pacific, Inc. carried out an archaeological inventory survey of a property located along Ke'ehi Lagoon and in the previous location of Pahounui and Apili Fishponds. Pollen and radiocarbon dating of a geotechnical boring sample documented sediments deposited prior to Hawaiian arrival in the islands (BC 2602 to 2429).

Corner of North King and Houghtailing (Nakamura et al. 1994)

The Bernice P. Bishop Museum (Nakamura, Pantaleo, and Sinoto 1994) carried out an archaeological assessment of land in Kapālama on the corner of North King and Houghtailing Streets (see Figure 72). No significant finds were reported.

Kamehameha Homes Project, Kapalama (Borthwick et al. 1995)

Cultural Surveys Hawai'i (Borthwick, Masterson, Creed, and Hammatt 1995) carried out an archaeological inventory survey of the Kamehameha Homes Project in Kapālama (see Figure 72). No significant finds were reported.

Pier 40 (Moore and Kennedy 1999)

In 1999, Archaeological Consultants of the Pacific, Inc. prepared a report documenting the treatment of human remains inadvertently discovered during construction activities at Pier 40, approximately 150 m inland from the pier (Moore and Kennedy 1999) (see Figure 72). The documented remains consisted of a single *in situ* flexed burial (SIHP #50-80-14-5581) within naturally deposited alluvial sediments at a depth of approximately 70 cmbs (Moore and Kennedy 1999:10). It was determined that the burial was of post-Contact origin (pre-WWI) and most likely Hawaiian (Moore and Kennedy 1999). The remains were disinterred; however a specific re-interment location was not decided upon at the time of the report's publication.

Kapālama Shopping Center Redevelopment Project (Pammer and Monahan 2011 - draft)

This archaeological literature review and field inspection included five test excavations (Trenches 4 and 5 were close to Dillingham Boulevard). In general, the stratigraphy consisted of the asphalt parking lot surface over modern and historic fill, over naturally deposited sediments, over the coral shelf (a very loose cobbly layer with weak cementation).

Kamehameha Schools Commercial Lands in the *Makai* Portion of Kapālama (Tulchin, J. and Hammatt 2013)

Cultural Surveys Hawai'i included 13 preliminary test excavations as part of an archaeological inventory survey plan for Kamehameha Schools commercial lands in the *makai* portion of Kapālama. Three of these (Trenches 3, 4, and 5) were close to the *mauka* side of Dillingham Boulevard. Typical stratigraphy was fill over naturally deposited alluvial soils over relatively shallow (110 cmbs) limestone bedrock.

Traffic Control Signal Improvements along Dillingham Boulevard (Medina et al. 2013 - draft)

Cultural Surveys Hawai'i carried out archaeological monitoring for traffic control signal improvements along Dillingham Boulevard on both sides of the Kapālama Canal crossing. Subsurface deposits were characterized by various layers of fill sediments overtop a layer of organically enriched pond deposit, overtop of coral shelf. No historic properties or undisturbed cultural deposits were observed during monitoring.

Board of Water Supply Kalihi Beretania 24-Inch Water Main Project (Hammatt and Chiogioji 2008)

Cultural Surveys Hawai'i (Hammatt and Chiogioji 2008) carried out an Archaeological Inventory Survey of the Proposed Board of Water Supply Kalihi Beretania 24-Inch Water Main Project, Nu'uanu and Kapalama (see Figure 72). No significant finds were documented (although the study emphasized the need to consider the Judd Street and Nu'uanu Avenue bridges as historic properties).

Honolulu Community College (O'Hare, Shideler, and Hammatt 2010)

Cultural Surveys Hawai'i (O'Hare, Shideler, and Hammatt 2010) prepared an archaeological literature review and field inspection report for the Honolulu Community College Advanced Technology Training Center Project, located on the northwest side of the HCC campus (quite close to the proposed Kapālama Station Mauka Station Entrance Building) (see Figure 72). It was noted that although that study area has been extensively modified throughout the twentieth century, and no surface archaeological features remain, background research suggests that intact pre-Contact and early post-Contact cultural deposits associated with traditional Hawaiian habitation, agriculture, and burials may lie undisturbed beneath fill layers within the Honolulu Community College Advanced Technology Training Center Project study area(s). Post-Contact cultural deposits associated with western settlement and residential development from the nineteenth and twentieth centuries were also thought to be possibly present.

Field results included observations of both exposed banks of the Kapālama Canal. Notable was the prevalence of edible bivalve mollusk species. The abundance of these species in the east Kapālama Channel bank suggested a pattern of deliberate human predation (i.e. these shells appear to represent archaeological midden). Also observed in the east Kapālama Channel bank were water rounded basalt cobbles that in some places appeared to be grouped, possibly constituting archaeological features.

Palama Fire Station (Neller 1980)

During excavations at the Palama Fire Station in September 1980, SHPD made a site visit to the project. A large charcoal deposit was observed in an excavation sidewall which contained

several basalt cobbles. No further information was obtained due to the backfilling of the excavation prior to SHPD's return to document the feature. It could not be determined whether the deposit represented a historic feature or a traditional *imu* pit; however, no historic artifacts were observed in association with the feature.

Austin Lane (Jourdane 1994)

An inadvertent discovery of human skeletal remains was made during excavation for a water line within Austin Lane in Kapalama. An SHPD site visit determined the remains to represent a single individual from a previously disturbed burial. The burial was likely historic due to historic material within the soil matrix. No ethnicity was able to be determined. The skeletal remains were removed for reinterment.

Pālama Chevron Station (southwest corner of N. King St. and Robello Lane) (Dunn et al. 1991)

The Pālama Chevron Station finds (see Figure 72) were reported in a Dunn, Kalima, and Goodfellow (1991) monitoring report. The human skeletal remains observed were highly fragmented. The Minimum Number of Individuals (MNI) appeared to be five—but this was not altogether clear. Of interest was the comment that:

A parishioner of Kaumakapili Church mentioned to PHRI field personnel that the project area was once a cemetery. Mr. Tom Dye of the DLNR said that older residents of the area had once mentioned that when they were younger they regarded the area as “spooky,” and that this may be attributable to the fact that they had heard there were burials in the area. (Dunn et al. 1991:10)

The Pālama Chevron Station site is approximately 200 m northeast of the transit corridor. Finds were reported at 80 cm below surface, 105 cm below surface, and 120 cm below surface (Dunn et al. 1991:1, 4).

4.2 Honolulu

The downtown Honolulu area has had a dense population since circa AD 1200. Honolulu has also been the loci of the government of Hawai'i since 1809. There have been several extensive archaeological investigations near the HHCTCP AIS study corridor. The discussion of previous archaeological investigations proceeds from 'Ewa to Diamond Head (i.e., west to east) (Figure 73 and Table 8).

Kūwili Fishpond (McGerty et al. 1997)

In 1993, Scientific Consultant Services Inc. conducted an archaeological inventory survey at the site of the proposed Liliha Civic Center (Figure 73). The Kūwili Fishpond project area was between Iwilei Road, N. King Street, and Kaaahi Place. Subsurface testing identified soil layers interpreted to be the remains of Kūwili Fishpond (SIHP #50-80-14-5368). Radiocarbon analysis of pond sediments suggests that Kūwili Fishpond may have been constructed as early as AD 1100 (McGerty, Dega, and Spear 1997).

A total of 12 subsurface features were documented, including human skeletal remains, possible *ki'o pua* (fry-pond) walls, a coral platform foundation, and a basalt alignment. The dis-

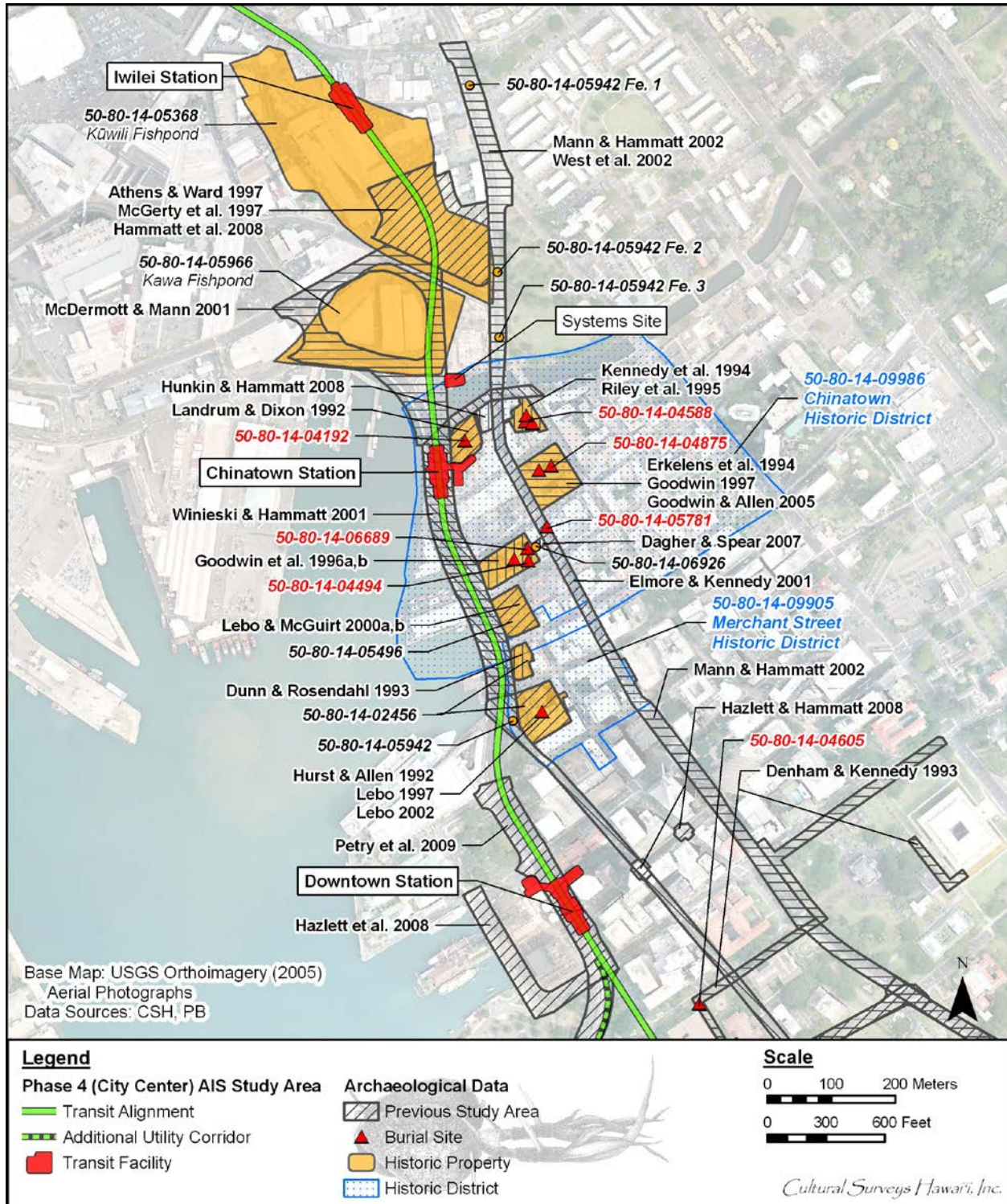


Figure 73. Previous archaeological studies in southeastern Kapālama and coastal Honolulu in the vicinity of the study corridor

Table 8. Previous Archaeological Studies in the Vicinity of the Downtown Honolulu Portion of the Study Corridor (arranged chronologically)

Author	SIHP #50-80-14	Report Description and Findings
Goodwin et al. 1992	-4494	Inventory survey, data recovery, and monitoring for the Marin Tower property - the entire Marin Tower property was designated SIHP #50-80-14-4494. SHIP - 4494 consists of 28 post-Contact burial features and the remains of several displaced human skeletal remains; pre-Contact fire pits; and early post-Contact structural foundations associated with the residence of the Marin family from about 1810 to 1850. Numerous pre- and post-Contact artifacts were also documented.
Hurst and Allen 1992	-2456	Archaeological monitoring and an archaeological inventory survey of the Harbor Court Tower site - one historic property documented: SIHP #50-80-14-2456, a subsurface cultural layer containing both pre- and post-Contact elements. The cultural layer contained primarily post-Contact features (i.e., building foundation ruins) associated with nineteenth-century urban development; however, both pre- and post-Contact artifacts were also observed. Pre-Contact traditional Hawaiian artifacts included basalt and volcanic glass flakes and modified marine shell; post-Contact artifacts included nineteenth century bottles and ceramics.
Landrum and Dixon 1992	-4192	Data recovery - documented four post-Contact trash pits, a brick and motor building foundation, and a single pre-Contact human burial; all documented archaeological features were designated SIHP #50-80-14-4192.
Dunn and Rosendahl 1993	-2456	Inventory survey of the proposed Nu'uanu Court Project - one historic property was documented: SIHP #50-80-14-2456, a cultural layer containing both pre- and post-Contact features.
Denham and Kennedy 1993	-4605, -4606	Archaeological monitoring for the State Capitol Complex Telecommunications Conduits Project documented two historic properties: SIHP #50-80-14-4606, a multi-component site consisting of a human burial, historic trash pit, firepit, and 6 postholes, and SIHP #50-80-14-4606 consisting of 9 historic trash pits

Author	SIHP #50-80-14	Report Description and Findings
Kennedy et al. 1994	-4587, -4588	Inventory survey for the Kekaulike Revitalization Project, 'Ewa Block, between King Street and Hotel Street, which documented two historic properties: SIHP #-4587, a small fishpond, and SIHP #-4588, a multi-component site consisting of 53 features, ranging from pre-Contact to modern and including 3 human burials
Erkelens et al. 1994	-4875	Interim report on 4 sets of human skeletal remains at the Kekaulike Project, Diamond Head Block, identified during inventory survey and data recovery investigations
Riley et al. 1995	-4587, -4588	Data recovery for the Kekaulike Revitalization Project, 'Ewa Block documented 55 features spanning the early pre-Contact period through the 20 th century. Radiocarbon dating of SIHP #-4587, a small fishpond, yielded an early 10 th c. date and dating of a coral reefstone platform (SIHP #-4588) yielded an 11 th c. date.
Goodwin et al. 1995	-4494	Inventory survey, data recovery and monitoring for the Marin Tower property. The entire Marin Tower property was designated SIHP #50-80-14-4494. SHIP # -4494 consists of 28 post-Contact burial features and the remains of several displaced human skeletal remains, pre-Contact fire pits, and early post-Contact structural foundations associated with the residence of the Marin family from about 1810 to 1850. Numerous pre- and post-Contact artifacts were also documented.
Goodwin et al. 1996	-4494	Inventory survey, data recovery, and monitoring for the Marin Tower property. The entire Marin Tower property was designated SIHP #50-80-14-4494. SHIP - 4494 consists of 28 post-Contact burial features and the remains of several displaced human skeletal remains, pre-Contact fire pits and early post-Contact structural foundations associated with the residence of the Marin family from about 1810 to 1850. Numerous pre- and post-Contact artifacts also documented.

Author	SIHP #50-80-14	Report Description and Findings
Goodwin 1997	-4875	Inventory survey of the Kekaulike Project, Diamond Head Block, documented a multi-component site consisting of 105 features and 6 culturally enriched sediment strata. The majority of features were identified as native Hawaiian from the early post-Contact period, but included later historic and modern features and structural remnants. A single burial was documented.
Athens and Ward 1997	-5368	Concluded that fishpond construction occurred rather late in the prehistoric Hawaiian period, after upland forests had been affected by inland expansion of Hawaiian land use
Lebo 1997	-2456	Data recovery excavations identified 35 new features associated with SIHP # 50-80-14-2456 post-Contact deposits. These included: fire pits, pavements, building foundations, post molds, and trash pits. Documented artifacts included: bottles, ceramics, glass beads, buttons (wood, shell, and bone), metal nails, adzes (stone and shell), flakes (basalt, quartz, chert, flint, jasper, and volcanic glass), modified, manufactured glass, fish hook blanks, bone awls, hammer stones, and grinding stones.
McGerty, Dega, and Spear 1997	-5368	Inventory survey at the site of the proposed Liliha Civic Center - subsurface testing identified soil layers interpreted to be the remains of Kūwili Fishpond (SIHP #50-80-14-5368).
Lebo and McGuirt 2000a	-5496	Inventory survey at 800 Nu‘uanu Avenue. One historic property documented: SIHP #50-80-14-5496, subsurface cultural layer containing both pre- and post-Contact archaeological features.
Lebo and McGuirt 2000b	-5496	Data recovery - Additional components of SIHP #50-80-14-5496, a subsurface cultural layer documented
McDermott and Mann 2001	-5966	Inventory survey for the proposed Nimitz Highway Water System Improvements in Downtown Honolulu - the archaeological fieldwork focused on investigations of Kawa Fishpond (SIHP #50-80-14-5966).
Winieski and Hammatt 2001a	-5942	Archaeological monitoring for the Nimitz Highway Reconstructed Sewer Project. Only one historic property was encountered: a remnant of a light-gauge rail associated with the historic Honolulu Rapid Transit trolley system (SIHP #50-80-14-5942) at the intersection of Queen Street and Nimitz Highway.

Author	SIHP #50-80-14	Report Description and Findings
Elmore and Kennedy 2001	-5781	Archaeological monitoring for sidewalk improvements within Chinatown. A single human burial (SIHP #50-80-14-5781) was documented, likely native Hawaiian.
Lebo 2002	-2456	Radiocarbon analysis of the SIHP #50-80-14-2456 pre-Contact deposits indicated that occupation at the site began between AD 1000 and AD 1200 (Lebo 2002: 14-1). Some 113 features were identified within pre-Contact deposits and include: 86 post molds, 25 in-filled pits, and two firepits. Traditional Hawaiian artifacts collected from the pre-Contact deposits consisted of primarily basalt tools and flakes, collected from non-feature contexts.
Mann and Hammatt 2002	-6371	Archaeological Monitoring Report for the King Street Rehabilitation Project (sections of King St. between Dillingham and South St.) - no significant finds north of Nu'uanu Stream. Previously disturbed human skeletal remains were found at a significant distance from the current project corridor, approximately 388 m northeast (SIHP #50-80-14-6371)
West, Ostroff, and Roberts 2002	-5942	Archaeological monitoring - one previously identified historic property documented: SIHP #50-80-14-5942, remnants of the Honolulu Rapid Transit trolley system
Goodwin and Allen 2005	-4875	Data recovery at the Kekaulike Project Diamond Head Block which excavated four house compounds and a blacksmith's shop. Radiocarbon dating indicated the area was in use as early as the 13 th century, with the majority of documented features associated with the early pre-Contact period. Four human burials were documented.
Dagher and Spear 2007	-6889, -6926	Archaeological monitoring identified 2 historic properties: SIHP #50-80-14-6889, two human burials, likely native Hawaiian; and SIHP #50-80-14-6926, a mortared basalt foundation wall and a ceramic storm drain containing a cache of ceramic vases

Author	SIHP #50-80-14	Report Description and Findings
Hammatt, Hazlett, and Shideler 2008	-5368	Data recovery for SIHP #50-80-14-5368 (a.k.a. Kūwili Fishpond) - radiocarbon dating samples collected by CSH suggest the earliest pond sediments were deposited circa AD 1020 to AD 1120. Microscopic charcoal particles in soil samples indicated local land clearing activity both prior to and after construction of Kūwili Fishpond. Pollen analysis did not provide much information about the effect of Hawaiian settlement, agriculture, or inland expansion upon the local vegetation or upon the inland forest.
Hazlett, Fehrenbach, and Hammatt 2008	N/A	Archaeological monitoring for water main installation on Aloha Tower Drive - no historic properties were encountered during project construction; observed stratigraphy consisted entirely of fill associated with modern road and utility construction, as well as historic land filling activities, associated with the expansion of Honolulu Harbor.
Hunkin and Hammatt 2008		Archaeological monitoring for courtyard renovation at the Armstrong Building on N. King Street documented no archaeological cultural resources.
Petrey et al. 2009		Archaeological monitoring for resurfacing of portions of Nimitz Highway and Ala Moana Boulevard, installation of streetlights, replacement of concrete bus pads, and limited drainage installation. No archaeological cultural resources were documented.

articulated human skeletal remains were found in historic sediments that filled in the pond and a portion (Feature 4) of the outer edge of an historic period *ki'o pua* (fry pond):

Feature 1 was a partial human femur uncovered in the eastern end of ST-1 in fill containing historical debris from the nineteenth century. In addition, a probable human femur fragment was identified in the south sidewall of the trench. No burial pit, articulated remains, or definite coffin could be identified in the fill. The remains were interpreted to be a previously disturbed burial and that [*sic*] had somehow been incorporated into the trash fill. The human bones were re-buried when the trench was backfilled (McGerty et al. 1997: 31).

Kūwili Fishpond (Athens and Ward 1997)

IARII's (Athens and Ward 1997) (Figure 73) investigations at this same Kūwili Fishpond project area located a low energy, gleyed, clay layer that contained little clastic material. A gleyed layer is a mottled or dark gray, sticky, organic-rich layer in the ground that is frequently

or continuously saturated, resulting in a reduced condition that preserves the organic matter. Clastic sediments are erosional detritus transported and deposited as solid fragments. This gleyed layer's color, texture, and elevation above sea level were consistent with general observations for fishpond sediments; this type of sediment could only have formed in a still ("quiet water") and protected environment.

Above this clay layer were massive historic fill deposits. Below were sandy, silty marine sediments that contained clastics of coral and terrigenous basalt. These notably higher energy sediments were interpreted as the natural lagoonal deposits that predated the construction of Kūwili Fishpond (SIHP #50-80-14-5368). The shallow lagoon layers received enough energy to transport clastics both from coral reefs and Nuʻuanu Stream. The combined terrestrial basalt and marine coral clastics were consistent with higher energy marine embayment and/or lagoon that had a significant source of terrigenous sediment, such as the nearby Nuʻuanu Stream (Athens and Ward 1997:47).

Two radiocarbon age determinations were undertaken on sediments collected by IARII from a core sample in Stratum III, the fine-grained (clayey) fishpond layer. These two radiocarbon age determinations were calibrated assuming a 40% contribution of marine carbon using the CALIB radiocarbon calibration program. This estimate of the percentage of carbon from a marine source was included in the calibration in an attempt to compensate for the marine reservoir effect, which, because of the apparent age of marine carbon, results in erroneously-old radiocarbon age determinations for marine samples. Assuming the 40% input of marine carbon in the two samples, the dating results were 480-289 and 507-293 cal. B.P. (or AD 1470-1661 and AD 1443-1657, respectively) (Athens and Ward 1997:47).

Based on the results of pollen analysis of sediment samples and the two radiocarbon dates, Athens and Ward (1997) concluded that fishpond construction occurred rather late in the prehistoric Hawaiian period, after upland forests had been affected by inland expansion of Hawaiian land use.

Kūwili Fishpond (Hammatt et al. 2008)

In 2008, CSH conducted data recovery for SIHP #50-80-14-5368 (Kūwili Fishpond; Figure 73) at the site of the proposed Iwilei Senior Housing Project (Hammatt, Hazlett, and Shideler 2008). Data recovery was focused on two research objectives: 1) to determine the date of construction and chronology of use of the fishpond, and 2) to develop data on paleo-environmental change and man-made alterations of the landscape at the fishpond.

Radiocarbon dating samples collected by CSH suggest the earliest pond sediments were deposited circa AD 1020 to AD 1120, which is consistent with the estimate of AD 1100 by McGerty et al. (1997).

Microscopic charcoal particles in soil samples indicated local land-clearing activity both prior to and after construction of Kūwili Fishpond. Unfortunately, the pollen analysis did not provide much information about the effect of Hawaiian settlement, agriculture, or inland expansion upon the local vegetation or upon the inland forest. According to McGerty et al. (1997), their study area had become a marsh by 2000 B.P.; the CSH (Hammatt et al. 2008) pollen analysis indicated that the area had remained marshland for the next thousand years, and the same flora

(*Pritchardia*, *Cyperaceae* and *Poaceae*) that had dominated the vicinity before establishment of the fishpond continued to grow in the area afterward.

King Street, between Liliha and River Streets (West et al. 2002)

In 2002, Garcia and Associates completed archaeological monitoring for waterline installation within King Street, between Liliha and River streets (West, Ostroff, and Roberts 2002) (Figure 73). One previously identified historic property was documented: SIHP #50-80-14-5942, remnants of the Honolulu Rapid Transit trolley system. This historic property was previously identified by Winieski and Hammatt (2001a) at the intersection of Queen Street and Nimitz Highway (see Nimitz Highway Reconstruction Sewer Project section below). West et al. (2002) identified portions of SIHP -5942 near the intersection of Liliha Street and King Street, at the Iwilei Road and King Street intersection, and near the Nu'uuanu/North King Street bridge. Documented Honolulu Rapid Transit trolley system remnants consisted of railroad ties, metal hardware, and brick construction.

Documented stratigraphy consisted primarily of imported fill material overlying limestone bedrock. In some instances, naturally deposited marine clay was observed approximately 1.5 m below the existing ground surface.

Nimitz Highway Water System Improvements between Iwilei Road, N. King Street, River Street, and Kūkahi Street (McDermott and Mann 2001)

In 2001, CSH conducted an archaeological inventory survey for proposed Nimitz Highway Water System Improvements in Downtown Honolulu (McDermott and Mann 2001). Their project area was between Iwilei Road, N. King Street, River Street, and Kūkahi Street. The archaeological fieldwork focused primarily on the investigation of Kawa Fishpond, designated SIHP #50-80-14-5966. Five boring cores were extracted to determine the boundaries of the pond, and three backhoe trenches were excavated near cores with positive results for fishpond sediments. Radiocarbon dating results of fishpond samples did not provide a clear date of construction for Kawa Fishpond, but, based on the samples, it appears that fishpond sediments were accumulating since at least AD 1150-1350.

Archaeological Monitoring Report for the King Street Rehabilitation Project (Mann and Hammatt 2002)

In 2002, CSH conducted an archaeological monitoring program for the King Street Rehabilitation Project, but there were no significant finds north of Nu'uuanu Stream (Mann and Hammatt 2002). Stratigraphic data was presented for North King Street north of Nu'uuanu Stream, but the excavations were typically less than a meter deep and were thus primarily only fill sediments. A find of previously disturbed human skeletal remains was documented near the corner of King and Punchbowl Streets, approximately 388 m northeast of and at a significant distance from the project corridor.

Nimitz Highway Reconstructed Sewer Project (Winieski and Hammatt 2001a)

In 2001, CSH conducted archaeological monitoring for the Nimitz Highway Reconstructed Sewer Project (Winieski and Hammatt 2001a) (Figure 73). The route of the sewer construction began on River Street, at the intersection of River and Hotel Streets, then *makai* to Nimitz Highway, and extended to Bethel Street, where it merged into the 'Ewa western end of Queen

Street. The route then extended along Queen Street to South Street, along South Street to Ala Moana Boulevard, and terminated at the Ala Moana Wastewater Pump Station. Only one historic property was encountered: a remnant of a light-gauge rail associated with the historic Honolulu Rapid Transit trolley system (SIHP #50-80-14-5942) at the intersection of Queen Street and Nimitz Highway. Based on the monitoring findings, as well as previous archaeological research, it was recommended that an archaeological monitor be present for any future ground disturbance in the area to mitigate the impact of subsurface disturbance to significant pre-Contact and historic archaeological resources.

River-Nimitz Redevelopment (Landrum and Dixon 1992)

In 1989, the Applied Research Group at the Bishop Museum conducted emergency data recovery in response to the inadvertent discovery of subsurface archaeological features during River-Nimitz Redevelopment work on the corner of River Street and Nimitz Highway (Landrum and Dixon 1992) (see Figure 73). Documented archaeological features consisted of four post-Contact trash pits, a brick and motor building foundation, and a single pre-Contact human burial. The numerous artifacts discovered in the trash pits appeared to be deposited in the early nineteenth century through the early twentieth century. The pre-Contact burial was found within inundated marsh sediments, which preserved some soft-tissue remains, as well as burial goods consisting of braided cordage and matted pandanus. All of the documented archaeological features were designated SIHP #50-80-14-4192.

Armstrong Building (Hunkin and Hammatt 2008)

In 2008, CSH conducted archaeological monitoring of renovations to the Armstrong Building courtyard which consisted of limited ground disturbing activities. No archaeological resources were documented.

Kekaulike Revitalization Project, 'Ewa Block (Kennedy et al. 1994; Riley et al. 1995)

In 1992, Archaeological Consultants of Hawaii conducted an archaeological inventory survey for the Kekaulike Revitalization Project, 'Ewa Block, bounded by King Street, River Street, Hotel Street, and Kekaulike Street (Kennedy et al. 1994). Investigations consisted of nine backhoe trenches and three hand excavated test units. Two historic properties were identified: SIHP #50-80-14-4587, a small pond, and SIHP #50-80-14-4588, a multi-component site consisting of 53 features ranging from the pre-Contact to the historic period and comprising a range of functions. The documented features included 20 postholes, 3 pits, 3 firepits, 3 cut stone walls, 7 crushed coral foundations, a burn layer (possibly from the 1900 or 1902 Chinatown fires), historic trash pits, and 3 human burials (two likely historic and one likely pre-Contact).

In 1993, Archaeological Consultants of Hawaii conducted a data recovery program further investigating the two historic properties documented by Kennedy et al. 1994 (Riley et al. 1995). A total of 64 test units were excavated and 55 features were documented, including 3 additional human burials. Radiocarbon dating of charcoal from SIHP #-4587 yielded a much earlier date than expected, within the 10th century. As the dated charcoal was obtained from behind the pond wall, the radiocarbon date was believed to represent the construction or renovation of the pond. Investigations indicated that use of the pond continued up until the 1860s when it was infilled. Analysis of the documented features of SIHP #-4588 showed an extensive timeline of occupation of the project area. Features ranged from the 10th and 11th centuries (as evidenced by the pond

and by a coral reefstone platform with the remnants of a possible human burial), up through the pre-Contact 1600s and 1700s (as evidenced by a hard packed living surface with associated traditional cultural artifacts), through the 1800s (as evidenced by a latrine pit, a Kauai poi pounder and traditional style fishhooks made from copper), and up through the 20th century. Osteological analysis of the three human burials, as well as the three burials documented during the inventory survey, identified five of the six individuals as of Chinese ancestry.

Kekaulike Revitalization Project, Diamond Head Block (Erkelens et al. 1994; Goodwin 1997; Goodwin and Allen 2005)

In 1994, International Archaeological Research Institute (IARII) conducted an archaeological inventory survey for the Kekaulike Revitalization Project, Diamond Head Block, bounded by King Street, Maunakea Street, Hotel Street, and Kekaulike Street (Goodwin 1997). Investigations consisted of 21 test trenches. A multi-component site (SIHP #50-80-14-4875) consisting of 105 features along with six culturally enriched sediment strata was documented. The features ranged from the pre-Contact period to the 20th century and included pre-Contact and post-Contact fire pits, pit features, historic structural foundations, masonry walls, postholes (possible pre-Contact and/or post-Contact), privies, historic trash pits, and human skeletal remains within a pit feature. Charcoal from one fire pit feature yielded a date range of AD 1184-1394. The majority of the features were identified as native Hawaiian from the early post-Contact period.

In 1994, IARII conducted a data recovery program further investigating SIHP #50-80-14-4875 (Goodwin and Allen 2005). Investigations recovered artifacts and dated charcoal layers that indicate the area was in use as early as the 13th century, with heavy occupation occurring from the early- to mid-nineteenth century. Four house compounds and a blacksmith's shop, dating partly to the early 19th century, were excavated. A total of 8,552 artifacts were collected, associated with a variety of ethnic origins (traditional Hawaiian, Euro-American, and Asian). Multiple features, such as postmolds, living floors, firepits, refuse pits, and fence lines were all recorded in association with each of the four house compounds. Large amounts of bone midden were also recovered, which included faunal remains present before Contact (such as pig, dog, turtle, chicken, shark, fish, and Pacific rat). Historically introduced animals such as cow, horse, goat, sheep, cat, and the Norwegian rat were also present. The remains of a human fetus were identified during faunal analysis.

In tandem with the inventory survey and data recovery investigations of the Kekaulike Project, Diamond Head Block, an interim report on human skeletal remains found in the project area was produced (Erkelens et al. 1994). The human skeletal remains documented during inventory survey investigations were found to consist of three individuals within a single pit feature representing a secondary burial context. The remains were incomplete and inarticulated while the secondary burial pit contained historic artifacts. Osteological examination identified a young adult male (either Hawaiian or Asian, or mixed Hawaiian/Asian), a late adolescent female (likely Hawaiian), and a young child 3-4 years of age. During data recovery human fetal remains were recovered from samples of a large refuse deposit. Osteological analysis placed the age at 6-7 months. All human skeletal remains were disinterred.

Marin Tower (Goodwin et al. 1992, Goodwin et al. 1995, Goodwin et al. 1996)

Marin Tower, surrounded by Smith Street, King Street, Maunakea Street, and Nimitz Highway (see Figure 73), was the subject of intensive archaeological research. The results of the research were presented in three International Archaeological Research Institute, Inc. reports: *The Burials From the Marin Tower Property, Preliminary Report* (Goodwin et al. 1992); *Honoruru to Honolulu: From Village to City, Volume II: The Burials* (Goodwin et al. 1995); and *Honoruru to Honolulu: From Village to City, Volume I: History and Archaeology of a City Block; Archaeological Data Recovery Report, Marin Tower Property, Site No. 50-80-14-4494* (Goodwin et al. 1996).

The results included designating the entire Marin Tower project area as SIHP #50-80-14-4494. Research for this multi-sectioned project indicated that Don Pablo Francisco de Paula de Marin and a number of his wives and children were buried on this property in a family cemetery. Fifteen burial features and several isolated, displaced human skeletal remains were found during the data recovery efforts. Coffin remnants of both adult and child coffins were recovered. A large variety of associated grave goods were also recovered, including small glass beads (0.08 inches in diameter), large glass beads, a copper ring, bone discs and buttons, an iron and wood smoking pipe, a glass bead necklace, copper alloy buttons, shell buttons, ceramics, an iron-blade kitchen knife, and a copper cross necklace. A Memorandum of Agreement was drawn up with Marin family relatives, and the skeletal remains were disinterred then re-interred elsewhere on the property on March 3, 1994.

Additionally, documented archaeological features consisted of pre-Contact fire pits and early post-Contact structural foundations associated with the residence of the Marin family from about 1810 to 1850. Also documented were artifacts associated with the use of the *makai* portion of the property as part of the Honolulu Ironworks from 1850 to 1900, as well as the use of the *mauka* portion for shops and families of Chinese merchants during the same period. Additionally, artifacts and structures related to the commercial development of the property as part of Downtown Honolulu from 1900-1950 were also documented.

Pacific Town Gateway Center Project (Dagher and Spear 2007)

In 2007, Scientific Consultant Services (SCS) conducted archaeological monitoring at the Pacific Town Gateway Center Project on N. King Street. Two cultural resources were identified. SIHP #50-80-14-6889 consisted of two human burials in close proximity to each other. Burial 1 was a flexed or partially flexed in situ burial with no discernible burial pit identified as a young adult male at least 25-30 years of age. Similarly, Burial 2 was a flexed in situ burial with no discernible burial pit identified as an adult female. Based on the burial contexts the individuals were believed to be of native Hawaiian ancestry. SIHP #50-80-14-6926 consisted of two historic features. Feature 1 was a stacked and faced foundation wall of mortared basalt cobbles and boulders capped with concrete. Feature 2 was a collapsed molded ceramic storm drain which contained a cache of intact Ing Ka Py ceramic vases. Monitoring also identified fill materials from the adjacent Marin Tower project which contained glass bottles, porcelain fragments, metal nails and spikes, marine shell, faunal remains, including butchered cow and pig, and two traditional artifacts, a basalt *'ulumaika* and a smaller coral *'ulumaika*.

Corner of Marin and Smith Streets (Lebo and McGuirt 2000a and b)

A subsurface inventory survey was conducted by the Bishop Museum in December 1996 (Lebo and McGuirt 2000a) at 800 Nuʻuanu Avenue (see Figure 73). Six trenches were excavated in the parking lot of a Bank of Hawai'i building at the corner of Marin and Smith Streets. An analysis of the trench stratigraphy and recovered cultural remains allowed the researchers to identify five cultural periods within a cultural deposit designated SIHP #50-80-14-5496: (1) pre-Contact (pre-1810), when the area was inhabited only by Native Hawaiians; (2) 1810 to 1850, when early foreign residents such as the Spaniard Don Francisco de Paula de Marin and the Englishman Isaac Davis began to build dwellings and storehouses in the area; (3) 1850-1890s, when large industrial structures, such as the Honolulu Flour Mill and the Honolulu Iron Works, were built on the property; (4) 1890s-1925, when many smaller wooden structures for businesses took over the area; and (5) 1925 to present, when most buildings were demolished and their study area was used as a parking lot. A few traditional Hawaiian artifacts and numerous historic artifacts were recovered during the excavations.

Data recovery was conducted by the Bishop Museum (Lebo and McGuirt 2000b) in the 800 Nuʻuanu Block (TMK 1-1-7-002:002) in October 1997. Ten backhoe trenches were excavated within the parking lot on the Diamond Head portion of the block bounded by Nuʻuanu Avenue and Nimitz, Marin, and Smith Streets. A total of 76 features were identified, including building foundations, post molds, coral block floors and walls, fire pits, trash deposits, and cast-iron sewer pipes. All features within their project area were designated as part SIHP #50-80-14-5496, previously identified by Lebo and McGuirt (2000a). The earliest cultural remains were believed to date to earlier than AD 1810. Numerous historic artifacts were recovered dating to the early post-Contact period, when the area was used for storehouses, to the later historic periods when the lot was used for industrial structures, for small businesses, and then as a parking lot.

Introduction to the “Harbor Court” Projects

The “Harbor Court” Projects involved two adjacent tower projects, Queens Court and Harbor Court. Archaeological research was conducted by Paul H. Rosendahl, Ph.D., Inc. (PHRI) and the Bishop Museum. Studies included: *Archaeological Inventory Survey, Nuʻuanu Court Project, Land of Nuʻuanu, Kona District, Island of Oʻahu* (TMK:2-1-02:26) (Dunn and Rosendahl 1993); *Archaeological Monitoring and Inventory Survey, Harbor Court (Kaʻahumanu Parking Structure) Project, Site 50-80-14-2456, Nuʻuanu, Ahupuaʻa, Kona District, Island of Oʻahu, Hawaiʻi* (Hurst and Allen 1992); *Native Hawaiian and Euro-American Culture Change in Early Honolulu, Archaeological Data Recovery, Harbor Court Property, Site No. 50-80-14-2456, Honolulu, Hawaiʻi* (Lebo 1997); and *Pulaho and Charlton's Claim: Archaeological Data Recovery at Harbor Court, Downtown Honolulu (Site 50-80-14-2456)* (Lebo 2002).

The results of the research are described below based on the individual reports listed above.

Nuʻuanu Harbor Court Project (Kaʻahumanu Parking Garage) (Dunn and Rosendahl 1993)

In 1993, Paul H. Rosendahl, Ph.D., Inc. (PHRI) completed an archaeological inventory survey of the proposed Nuʻuanu Court Project (formerly called the Kaʻahumanu Parking Garage) (Dunn and Rosendahl 1993) (see Figure 73). One historic property was documented: SIHP #50-80-14-2456, a subsurface cultural layer containing both pre- and post-Contact features including:

marine-shell midden, charcoal, non-human bone, postholes, pit features, and a variety of artifacts. Pre-Contact traditional Hawaiian artifacts included basalt flakes and modified shell and bone; post-Contact artifacts included metal, glass, and ceramic fragments.

Harbor Court Tower (Hurst and Allen 1992)

In 1992, the Applied Research Group of the Bishop Museum completed archaeological monitoring and an archaeological inventory survey of the Harbor Court Tower site (formerly called the Ka'ahumanu Parking Garage) (see Figure 73). One historic property was documented: SIHP #50-80-14-2456, a subsurface cultural layer containing both pre- and post-Contact elements. The cultural layer contained primarily post-Contact features (i.e., building foundation ruins) associated with nineteenth-century urban development. Pre-Contact traditional Hawaiian artifacts included basalt and volcanic glass flakes and modified marine shell; post-Contact artifacts included nineteenth-century bottles and ceramics. Six human burials were also identified (SIHP #2456). Although a description of the burials was not provided in Hurst and Allen 1992, Appendix B of Lebo 2002 (see below) provides a complete osteological report of these findings. The burials were determined to likely be of Polynesian ancestry and consisted of four adult females (varying between 18-25 and 25-35 years of age), an adult male (25-35 years of age), and a subadult (8-12 years of age). The subadult skeletal remains were notable in the absence of the skull and leg bones which were believed to have been later recovered by the family as keepsakes, a traditional Hawaiian practice. One of the female skeletons evidenced tooth evulsion, the late Hawaiian practice of removing teeth in order to express grief.

Harbor Court Tower (Lebo 1997)

In 1997, the Applied Research Group of the Bishop Museum completed data recovery at SIHP #50-80-14-2456, located at the Harbor Court Tower site (formerly called the Ka'ahumanu Parking Garage) (see Figure 73). Data recovery involved an analysis of "Native Hawaiian occupations associated with the village of Kou/Honolulu from late eighteenth to mid-nineteenth century" (Lebo 1997:195). Lebo provides the following summary of the findings during the data recovery:

These investigations indicate a dynamic post-Contact Native Hawaiian occupation at the site characterized by a vibrant interchange of traditional and introduced ideas, materials, technology, and cultural lifeways. Rich local marine and terrestrial resources were utilized for food, tools, ornaments, building materials, and clothing. Traditional lithic, bone, and shell tool and ornament production and technology continued as a mainstay of Native Hawaiian daily life. Introduced materials such as ceramics and bottle glass were incorporated into the everyday life of the Native Hawaiian retinue that occupied this site.

At mid-century, the site was transformed into a major commercial area in early Honolulu. Commercial development continued through the nineteenth century. Development in the twentieth century included the demolition of some of these commercial buildings [Skinner's Auction House, Janion Green building, Hudson's Bay Co. store and the Theo. Davies building] and the erection of the Kaahumanu parking structure. Today, this site is the location of the Harbor Court Tower. (Lebo 1997:195)

All data recovery excavations were stopped upon encountering the pre-Contact deposits of the site. The pre-Contact deposits were investigated later by PHRI (Lebo 2002). Data recovery excavations identified 35 new features associated with SIHP #-2456. These included: fire pits, pavements, building foundations, post molds, and trash pits. All observed artifacts were of post-Contact origin, but as noted above, represent the influence of Western material culture upon the traditional Hawaiian lifestyle. Documented artifacts included: bottles, ceramics, glass beads, buttons (wood, shell, and bone), metal nails, adzes (stone and shell), flakes (basalt, quartz, chert, flint, jasper, and volcanic glass), modified manufactured glass, fish hook blanks, bone awls, hammer stones, and grinding stones.

Harbor Court Tower (Lebo 2002)

In 2002, PHRI completed data recovery at SIHP #50-80-14-2456, located at the Harbor Court Tower site (formerly called the Ka'ahumanu Parking Garage) (see Figure 73). The data recovery excavations conducted by PHRI completed the work which was initially begun by the Applied Research Group (Lebo 1997). Radiocarbon analysis of the SIHP #-2456 pre-Contact deposits indicated that occupation at the site began between AD 1000 and AD 1200 (Lebo 2002: Chapter 14:1).

One hundred and thirteen features were identified within pre-Contact deposits and include: 86 post molds, 25 in-filled pits, and two firepits. Traditional Hawaiian artifacts collected from the pre-Contact deposits consisted of primarily basalt tools and flakes and were collected from non-feature contexts. Observed midden consisted primarily of fish, bird, sea turtle, and marine mollusks. Dog and pig were also documented, but to a lesser extent.

King Street Sidewalk Improvements, Chinatown (Elmore and Kennedy 2001)

Between 1999 and 2000, Archaeological Consultants of Hawaiia conducted archaeological monitoring along King Street between River Street and Bethel Street. A human burial, designated SIHP #50-80-14-5781, was documented at the corner of King Street and Maunakea Street, within natural alluvial sediment. Investigations documented an in situ flexed primary burial disturbed by project excavation. The remains were disinterred.

Nimitz Highway and Ala Moana Boulevard Resurfacing Project (Petry et al. 2009)

In 2007, CSH (Petry, Hazlett, Borthwick, and Hammatt 2009) completed archaeological monitoring for the resurfacing of portions of Nimitz Highway and Ala Moana Boulevard along with the installation of streetlights, replacement of concrete bus pads, and limited drainage installation. The majority of ground disturbance consisted of very shallow excavations with the exception of traffic signal installations. In the area of Fort Street and Nimitz Highway fill deposits containing historic and modern building debris were documented. In the area of Bishop Street and Nimitz Highway fill deposits containing building rubble were observed. In the area along Ala Moana Boulevard between Channel Street and Pi'ikoi Street natural coralline sand was documented beneath fill material. No archaeological cultural resources were documented.

Water Main Installation on Aloha Tower Drive (Hazlett et al. 2008)

In 2007, CSH (Hazlett, Fehrenbach, and Hammatt 2008) completed archaeological monitoring for water main installation on Aloha Tower Drive (see Figure 73). No historic properties were encountered during project construction. Observed stratigraphy consisted

entirely of fill associated with modern road and utility construction, as well as historic land filling activities associated with the expansion of Honolulu Harbor. Documented fill sediments consisted of dredge material associated with the construction of Honolulu Harbor, as well as terrestrial sediments imported from other land areas of O'ahu.

State Capitol Complex Telecommunications Conduits (Denham and Kennedy 1993)

In 1992, Archaeological Consultants of Hawaii conducted archaeological monitoring of electrical line excavations for the State Capitol Complex Telecommunication Conduits, Phase III, Project ((Denham and Kennedy 1993). Two historic properties were documented. SIHP #50-80-14-4605, a multi-component site, consisted of an in situ human burial, a historic trash pit, a ditch, 1 firepit, and 6 postholes. The firepit was dated to between 1390-1700. In addition, one of the postholes was dated between 860-1330, with the most likely date range during the late 12th century. The human burial was disinterred. SIHP #50-80-14-4606 consisted of nine historic trash pits dating from the mid-nineteenth century and the early twentieth century.

4.3 Kaka'ako

The Kaka'ako area contains historic properties of both pre-Contact and post-Contact origin. The area has been subject to intensive reconstruction and growth since the mid-1990s as a consequence of the growth of Honolulu and Waikīkī. Several investigations have uncovered subsurface elevated sand ridges, often containing burials and other historic properties, such as post-Contact trash pits. The discussion of previous archaeological investigations proceeds from 'Ewa to Diamond Head (west to east) (Figure 74, Figure 75, and Table 9).

American Disabilities Act Improvements Project (Hazlett and Hammatt 2008)

In 2006, CSH conducted archaeological monitoring at the intersections of Alakea and Queen Streets and Alakea and Merchant Streets (Hazlett and Hammatt 2008). Fill materials contained historic trash, building materials, and faunal bones. No cultural resources were identified.

Nimitz Highway Reconstructed Sewer Project (Winieski and Hammatt 2001a)

Between 1999 and 2001, CSH conducted archaeological monitoring along portions of River Street, Nimitz Highway, Queen Street, South Street, and Ala Moana Boulevard (Winieski and Hammatt 2001a). A historic brick alignment was observed within Queen Street and a historic brick lined manhole and a remnant of a light gauge trolley rail (SIHP #50-80-14-5942) were observed at the intersection of Queen Street and Nimitz Highway.

Water Main Installation on Aloha Tower Drive (Hazlett et al. 2008)

In 2007, CSH (Hazlett, Fehrenbach, and Hammatt 2008) completed archaeological monitoring for water main installation on Aloha Tower Drive. No historic properties were encountered during project construction. Observed stratigraphy consisted entirely of fill associated with modern road and utility construction, as well as historic land filling activities associated with the expansion of Honolulu Harbor. Documented fill sediments consisted of dredge material associated with the construction of Honolulu Harbor, as well as terrestrial sediments imported from other land areas of O'ahu.

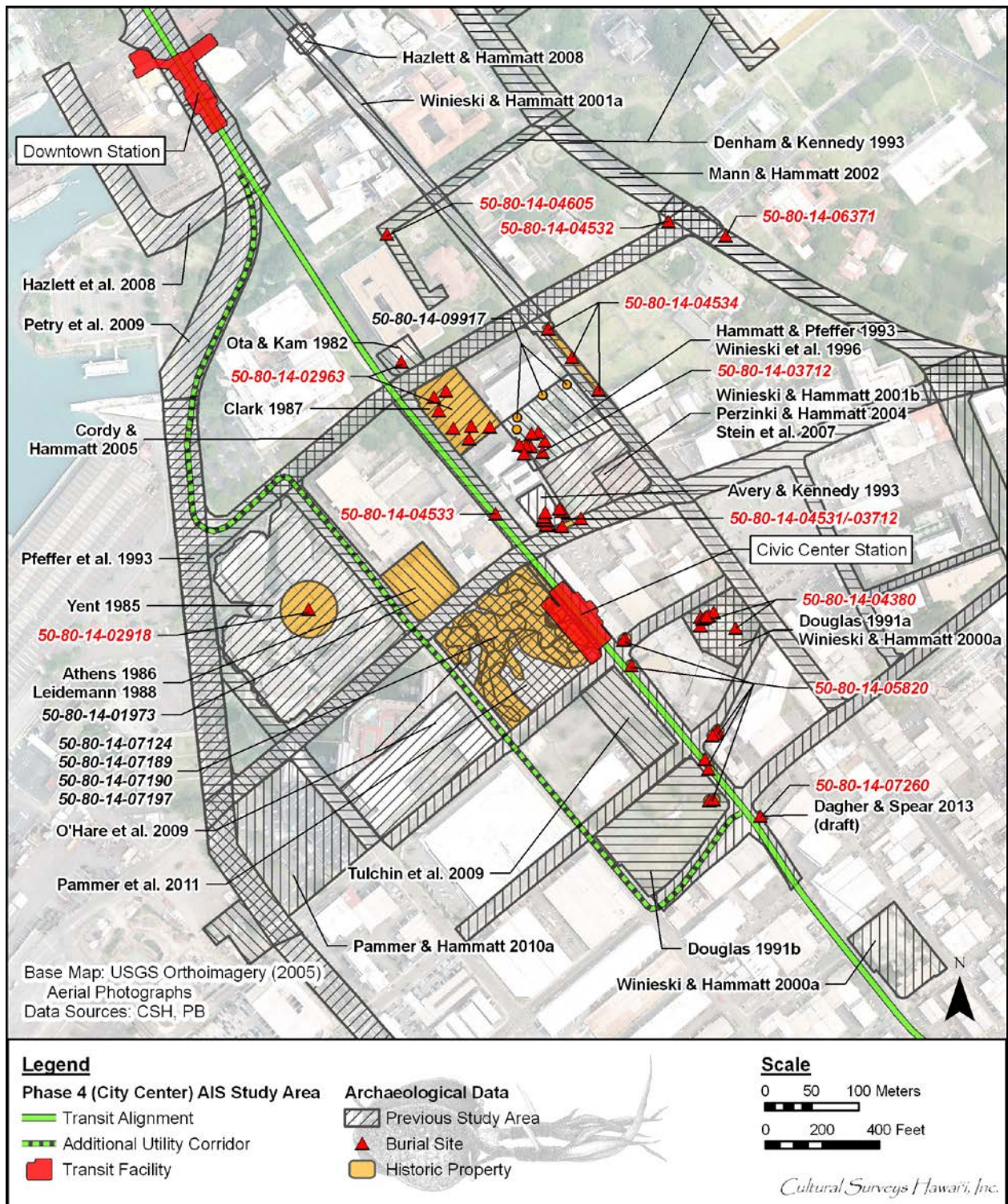


Figure 74. Previous archaeological studies in northwestern Kaka'ako in the vicinity of the study corridor

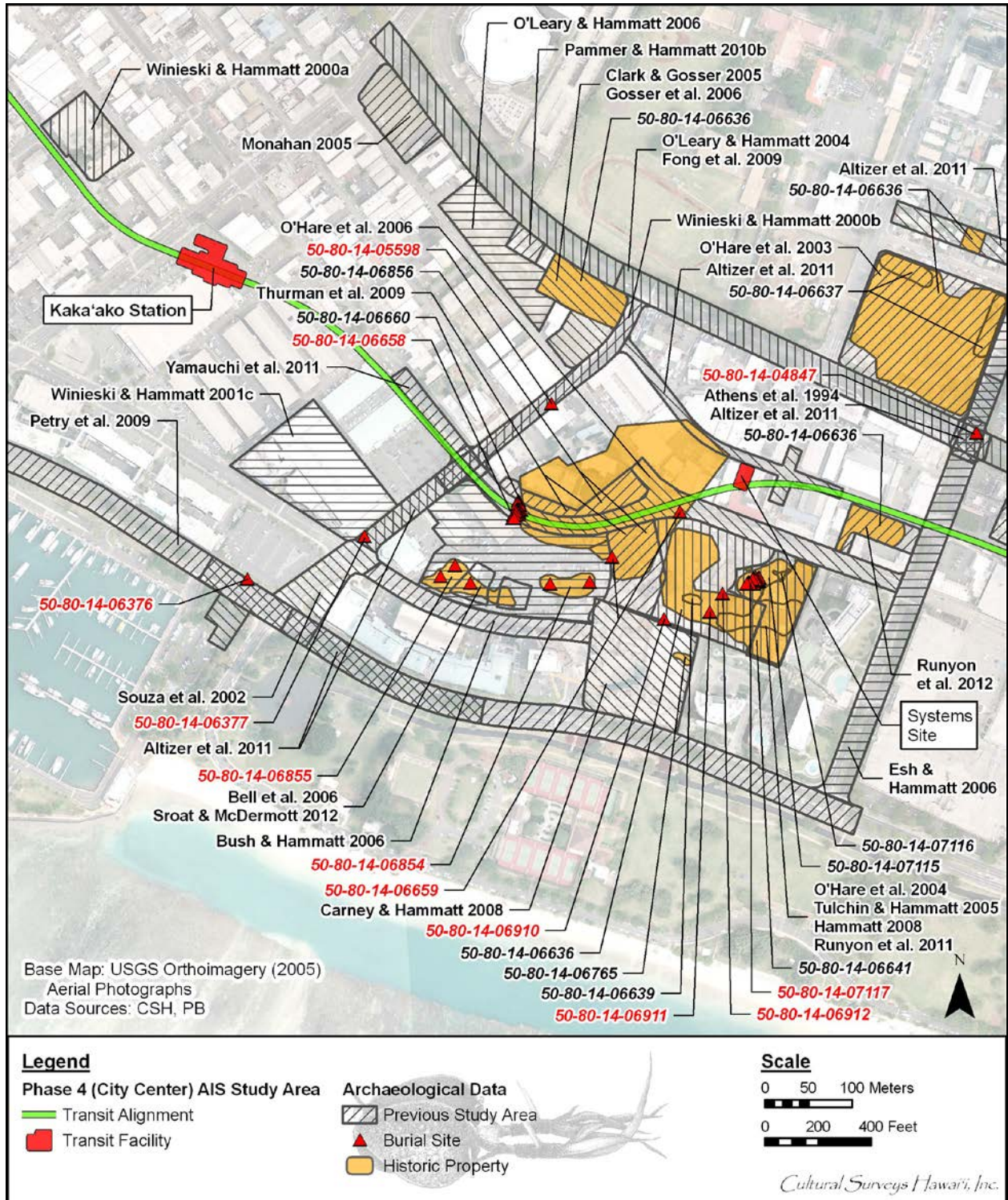


Figure 75. Previous archaeological studies in southeastern Kaka'ako in the vicinity of the study corridor

Table 9. Previous Archaeological Studies in the Vicinity of the Kaka'ako Portion of the study corridor (arranged chronologically)

Author	SIHP #50-80-14	Report Description and Findings
Ota and Kam 1982	-2963	Osteological Study, Makai Parking Garage, corner of Punchbowl and Halekauwila Streets (TMK 2-1-31:23) - Six partial burial sets (SIHP #50-80-14-2963) found. Tooth evulsion indicates probable pre-Contact to 1850 date.
Yent 1985	-2918	Ka'ākaukukui Cemetery (-2918) at the Honolulu Iron Works project area - Five burials (SIHP #50-80-14-2918) recorded
Athens 1986	-1973	Monitoring of Judiciary Parking Lot - Historic deposits (SIHP #50-80-14-1973) with artifacts dating late nineteenth to early twentieth centuries
Clark 1987	-2963	Archaeological monitoring at Makai Parking Garage, corner of Punchbowl and Halekauwila Streets (TMK 2-1-31:23) - One cultural resource identified: SIHP #50-80-14-2963; seven burials probably dating to pre - 1850
Leidemann 1988	-1973	Monitoring at Federal Building parking lot - Historic deposits (SIHP #50-80-14-1973) found
Douglas 1991a	-4380	Coral and Queen Street area - Eight burials (SIHP #50-80-14-4380) recorded and five disinterred
Douglas 1991b	-4380	Coral and Queen Street area - One burial recorded (SIHP #50-80-14-4380).
Avery and Kennedy 1993	-3712	Archaeological monitoring 614 South Street - one cultural resource identified: SIHP #50-80-14-3712 (Honuakaha Smallpox Cemetery); nine post-Contact burials and an early twentieth-century trash pit
Hammatt and Pfeffer 1993	-3712	Archaeological inventory survey at the American Brewery lot – identified 29 burial pits associated with the Honuakaha Cemetery (SIHP #50-80-14-3712) and 3 refuse pits associated with the brewery
Denham and Kennedy 1993	-4605, -4606	Archaeological monitoring for the State Capitol Complex Telecommunications Conduits Project documented two cultural resources: SIHP #50-80-14-4606, a multi-component site consisting of a human burial, historic trash pit, firepit, and 6 postholes, and SIHP #50-80-14-4606 consisting of 9 historic trash pits
Pfeffer, Borthwick, and Hammatt 1993	-3712; -4531; -4532; -4533; -4534	Monitoring for Kaka'ako ID-1 - 31 burials from 1853-1854 Honuakaha Smallpox Cemetery (SIHP #50-80-14-3712/-4531) at Quinn Lane; one historic burial from Punchbowl St. (SIHP #50-80-14-4532); one

Author	SIHP #50-80-14	Report Description and Findings
		possibly pre-Contact burial from Halekauwila St. (SIHP #50-80-14-4533); and 116 historic burials from Kawaiaha'o Cemetery (SIHP #50-80-14-4534) at Queen St. (used from 1825-1920)
Athens et al. 1994	-4847	One set of human remains documented within a wetland environment, believed to represent a pre-Contact unattended death (SIHP #50-80-14-4847)
Winieski et al. 1996	-3712	Archaeological monitoring as well as disinterment of 25 sets of human remains (SIHP #50-80-14-3712) at the Honuakaha Housing Project (Honolulu Brewery site). Monitoring documented historic artifacts ranging from the 1880s to the turn of the 20 th century. Eleven previously identified and 14 inadvertent find of human remains were disinterred and reinterred on the property.
Winieski and Hammatt 2000a	-1388; -4380; -5820	Archaeological monitoring at the Kaka'ako Improvement District 3 area - 20 human burials were encountered. Nine burials were discovered at the Pohulani Elderly Rental Housing (SIHP #50-80-14-4380), and 11 were in and around Mother Waldron Park (SIHP #50-80-14-5820).
Winieski and Hammatt 2000b	-5598	Monitoring for Kaka'ako Improvement District 4 construction - Two isolated historic coffin burials (SIHP #50-80-14-5598) were documented on Kamake'e Street, between the intersections of Kawaiaha'o and Waimanu Streets.
Winieski and Hammatt 2001a	-5942	Archaeological monitoring along Nimitz Highway, Queen Street, and Ala Moana Boulevard which documented historic trash within fill, a brick alignment, a brick lined manhole, and the remains of a light gauge rail associated with the historic Honolulu Rapid Transit System, SIHP #50-80-14-5942
Winieski and Hammatt 2001b	NA	Archaeological monitoring of boring at the Kaka'ako Fire Station. No cultural material or human remains were observed.
Winieski and Hammatt 2001c	NA	Archaeological monitoring at the Ward Village Phase II project (Ward Theatres documented pockets of a sandy loam buried A-horizon – no archaeological cultural resources were identified)
Souza, Perzinski, and Hammatt 2002	-6376; -6377; and -6378	Kaka'ako Improvement District 7 Monitoring - Three burials encountered: SIHP #50-80-14-6376, SIHP #50-80-14-6377, and SIHP #50-80-14-6378
O'Hare et al. 2003	-6636	Inventory survey at the corner of Pi'ikoi St. and Kapi'olani Blvd. – documented 4 features consisting of

Author	SIHP #50-80-14	Report Description and Findings
		2 historic trash pits, a pit containing ceramic insulators, and an artificially constructed sand berm with a possible coral retaining wall and a wooden fence post. The sand berm feature was designated part of SIHP #50-80-14-6636.
O'Hare, Bush, Borthwick, and Hammatt 2004	-6639; -6641; -6636	Inventory survey Ko'olani Condominium - Three cultural resources documented: SIHP #50-80-14-6639 and SIHP #50-80-14-6641, historic trash pits dating from the early twentieth century; and SIHP #50-80-14-6636, the original wetland surface of Kewalo
O'Leary and Hammatt 2004	NA	Archaeological monitoring along Kapi'olani Blvd. – no archaeological cultural resources identified
Perzinski and Hammatt 2004	NA	Inventory survey for the Kaka'ako Fire Station Renovation Project – no cultural resources documented
Clark and Gosser 2005	-6636	Inventory survey at the corner of Kapi'olani Blvd. and Kamake'e St. which documented pond sediments, a component of the Kewalo wetland sediments (SIHP #50-80-14-6636)
Cordy and Hammatt 2005	NA	Archaeological monitoring Punchbowl St. - No historic properties identified; observed stratigraphy generally consisted of historic and modern fill material overlying naturally deposited sediment layers (Jaucas sand or black cinder).
Monahan 2005	NA	Archaeological monitoring on two parcels at the corner of Kapi'olani Blvd. and Ward Ave. - no archaeological finds
Tulchin, T. and Hammatt 2005	-6636; -6641	Inventory survey Phase II portion of the Ko'olani Condominium parcel - Two cultural resources identified: SIHP #50-80-14-6636, original wetland surface of Kewalo area; and SIHP #50-80-14-6641, historic garbage layer—both previously identified by O'Hare et al. (2004)
Bell, McDermott, and O'Leary 2006	-6854; 6855; -6856	Archaeological inventory survey for Victoria Ward Village Shops – Three cultural resources identified: SIHP #50-80-14-6854, subsurface cultural layer containing both historic and prehistoric cultural material and five human burials; SIHP #50-80-14-6855, pre-Contact traditional Hawaiian cultural layer with six human burials; and SIHP #50-80-14-6856, historic fishpond remnant
Esh and Hammatt 2006	NA	Monitoring for the Rehabilitation of Streets Unit 5B on Pi'ikoi Street between Ala Moana Boulevard and Matlock Street - No cultural resources observed

Author	SIHP #50-80-14	Report Description and Findings
Gosser et al. 2006	NA	Monitoring at the corner of Kapi'olani Blvd. and Kamake'e St. documented no finds
O'Hare, Bush, and Hammatt 2006	-6658; -6659; -6660	Monitoring for the Queen Street Extension Project - Three cultural resources documented: SIHP #50-80-14-6658, a cluster of 28 burials; SIHP #50-80-14-6659, two isolated burials; and SIHP #50-80-14-6660, a post-Contact trash deposit
O'Leary and Hammatt 2006	NA	Inventory survey for the Moana Vista Project – no finds
Stein et al. 2007	NA	Monitoring for the Kaka'ako Fire Station renovation – no cultural resources were identified
Carney and Hammatt 2008	-6765	Archaeological monitoring of the Hokua Tower Project which identified 2 historic properties: SIHP #50-80-14-6765, an isolated fragment of a human mandible, and a historic trash pit
Hammatt 2008	-6910; -6911; -6912	Monitoring associated with the development of the Ko'olani Towers Phase I - Three cultural resources identified: SIHP #50-80-14-6910, a single pre-Contact burial; SIHP #50-80-14-6911, a cluster of 16 historic coffin burials; and SIHP #50-80-14-6912, a single burial
Hazlett and Hammatt 2008	NA	Archaeological monitoring at the intersections of Alakea and Merchant Streets and Alakea and Queen Streets. No historic properties were identified.
Hazlett, Fehrenbach, and Hammatt 2008	NA	Archaeological monitoring for water main installation on Aloha Tower Drive - no cultural resources were encountered during project construction; observed stratigraphy consisted entirely of fill associated with modern road and utility construction, as well as historic land filling activities, associated with the expansion of Honolulu Harbor.
Petrey et al. 2009	NA	Archaeological monitoring for resurfacing of portions of Nimitz Highway and Ala Moana Boulevard, installation of streetlights, replacement of concrete bus pads, and limited drainage installation. No archaeological cultural resources were documented.
Fong, Borthwick, and Hammatt 2009	NA	Monitoring of Kapi'olani Boulevard Drainage, Water, and Sewer Systems Improvements - No cultural resources observed

Author	SIHP #50-80-14	Report Description and Findings
O'Hare, Tulchin, T., Borthwick, and Hammatt 2009	NA	Archaeological inventory survey plan for three Kamehameha Schools Kaka'ako Mauka parcels including Civic Center Transit Center location - Preliminary testing identified extensive fill layers overlying naturally deposited sandy clay and marsh/pond sediments. No cultural resources identified
Thurman, Altizer, O'Hare, Shideler, and Hammatt 2009	-6856	Archaeological inventory survey for Queen Street parks project - One previously identified cultural resources: SIHP #50-80-14-6856, a historic fishpond remnant, originally identified by Bell et al. (2006)
Tulchin, T. Altizer, Borthwick, and Hammatt 2009	NA	Archaeological assessment of the proposed Halekauwila Place Project - No cultural resources identified. The stratigraphy observed within the subject parcel generally consisted of three to five layers of historic and modern fill material overlying naturally deposited sediment layers (sandy clay and gleyed clay sediments typical of a wet, marsh-type environment).
Pammer and Hammatt 2010a	NA	Archaeological assessment - No cultural resources were identified within the 4.7-acre project area. The project area was observed to have undergone extensive land modification by the filling of the low lying areas of Kaka'ako.
Pammer and Hammatt 2010b	NA	Archaeological assessment for an approximately 0.26-acre Moana Vista project on Kapi'olani Boulevard - No cultural resources identified
Altizer et al. 2011	-6636 (a kilometer north)	This archaeological monitoring report for the Kapi'olani area revised sewer system documented SIHP #50-30-14-6636, a wetland deposit, in Sewer Line G, near Kamaile Street, far from the present project area.
Pammer, Fong, and Hammatt 2011	-7124; -7189; -7190; -7197	A total of four cultural resources were identified within the project area: SIHP #50-80-14-7124, -7189, -7190 and -7197. SIHP #50-80-14-7124 consists of 31 historic building remnants features (Features A – EE), generally located just beneath the modern layers of fill. SIHP #50-80-14-7189 consists of a layer of burnt historic debris, suspected to be from the open air burning of urban refuse during the early 1900s. SIHP #50-80-14-7190 consists of old salt pan remnants, presenting as an approximately 5 cm thick layer of alternating peat and clay striations. SIHP #50-80-14-7197 consists of a sandy cultural layer containing one late pre-Contact/early post-Contact fire pit feature.

Author	SIHP #50-80-14	Report Description and Findings
Runyon, Thurman, O'Hare, Borthwick, and Hammatt 2011	-6636; -6641; -7115; -7116; -7117	Five cultural resources are significant based on Hawai'i Register* criteria: SIHP #50-80-14-6641, a burnt historic trash layer, was previously evaluated and determined significant under criteria A and D; SIHP #50-80-14-6636, Kewalo wetland sediment, was previously evaluated and determined significant under criteria A and D; SIHP #50-80-14-7115, a subsurface cultural layer containing intact pit features and artifacts is significant based on criteria A, D, and E; SIHP #50-80-14-7116, a buried low-energy alluvial layer, is significant based on criteria A and D; SIHP #50-80-14-7117, based on available archaeological information, is a concentration of post-Contact human burials, the majority of which are in an extended burial posture and located in coffins. All 27 burials were documented in pits extending down from the overlying buried, culturally-enriched A-horizon (SIHP #-7115).
Yamauchi et al. 2011	NA	Archaeological monitoring for the Queen and Kamake'e traffic signal project - no cultural resources were identified
Runyon, Borthwick, and Hammatt 2012	-6636	Archaeological Inventory Survey Report for the Senior Residence at Pi'ikoi. SIHP #50-80-14-6636 consists of buried Kewalo wetland sediments, found in all test trenches in the project area. The site has been previously documented in nearby areas in Kaka'ako (O'Hare et al. 2003, O'Hare et al. 2004, Tulchin, T. and Hammatt 2005, and Runyon et al. 2011).
Sroat and McDermott 2012	-6855	This supplemental archaeological inventory survey report for the Ward Village Shops Phase 2 project identified no new cultural resources. Further documentation of SIHP 50-80-14-6855 was conducted.
Dagher and Spear 2013 (draft)	-7260	This burial site component of a data recovery plan for State Site 50-890-14-7260 addresses the inadvertent find of a partial set of displaced human skeletal remains at the east corner of Halekauwila Street and Cooke Street.

Nimitz Highway and Ala Moana Boulevard Resurfacing Project (Petry et al. 2009)

In 2007, CSH (Petry, Hazlett, Borthwick, and Hammatt 2009) completed archaeological monitoring for the resurfacing of portions of Nimitz Highway and Ala Moana Boulevard along with the installation of streetlights, replacement of concrete bus pads, and limited drainage installation. The majority of ground disturbance consisted of very shallow excavations with the exception of traffic signal installations. In the area of Fort Street and Nimitz Highway fill deposits containing historic and modern building debris were documented. In the area of Bishop Street and Nimitz Highway fill deposits containing building rubble were observed. In the area along Ala Moana Boulevard between Channel Street and Pi'ikoi Street natural coralline sand was documented beneath fill material. No archaeological cultural resources were documented.

State Capitol Complex Telecommunications Conduits (Denham and Kennedy 1993)

In 1992, Archaeological Consultants of Hawaii conducted archaeological monitoring of electrical line excavations for the State Capitol Complex Telecommunication Conduits, Phase III, Project ((Denham and Kennedy 1993). Two historic properties were documented. SIHP #50-80-14-4605, a multi-component site, consisted of an in situ human burial, a historic trash pit, a ditch, 1 firepit, and 6 postholes. The firepit was dated to between 1390-1700. In addition, one of the postholes was dated between 860-1330, with the most likely date range during the late 12th century. The human burial was disinterred. SIHP #50-80-14-4606 consisted of nine historic trash pits dating from the mid-nineteenth century and the early twentieth century.

Kaka'ako Improvement District 1 (ID-1) (Pfeffer et al. 1993)

Between 1986 and 1988, CSH (Pfeffer, Borthwick, and Hammatt 1993) conducted archaeological monitoring, data recovery, and burial disinterment in the Hawai'i Community Development Authority's Kaka'ako Improvement District 1 (ID-1), which was bounded by Punchbowl Street (west), South Street (east), King Street (north), and Ala Moana Boulevard (south), including extensions east for Kawaiaha'o Lane, Queen Street, and Auahi Street. Portions of Pohukaina Street, Quinn Lane, and Reed Lane are also within this district (Figure 74). The observed stratigraphy generally consisted of imported construction fill material overlying naturally deposited Jaucas sand or black cinder deposits. In many cases, these Jaucas sand or black cinder deposits were culturally enriched with pre- and post-Contact deposits including: human burials, building foundations, trash pits, midden concentrations, and various pre- and post-Contact artifacts.

During the course of archaeological monitoring and data recovery activities, 149 human burials were identified and disinterred: 31 burials from the 1853-1854 Honuakaha Smallpox Cemetery (SIHP #50-80-14-3712 / -4531) at Quinn Lane, one historic burial from Punchbowl Street (SIHP #50-80-14-4532), one possibly pre-Contact burial from Halekauwila St. (SIHP #50-80-14-4533), and 116 historic burials from Kawaiaha'o Cemetery (SIHP #50-80-14-4534) at Queen Street (used from 1825-1920).

Archaeological Monitoring along Punchbowl Street (Cordy and Hammatt 2005)

In 2005, CSH completed archaeological monitoring along Punchbowl Street for the installation of planters, improved sidewalk access, and the establishment of a north-bound contra flow lane. No historic properties were identified. Observed stratigraphy generally consisted of

historic and modern fill material overlying naturally deposited sediment layers (Jaucas sand or black cinder).

Kaka'ako Improvement District 3 (Winieski and Hammatt 2000a)

Between November 1990 and September 1992, CSH conducted archaeological monitoring at the Kaka'ako Improvement District 3 area. The monitoring of sub-surface excavations revealed that although the area had been previously disturbed to a great extent, undisturbed beach sand and volcanic cinder deposits were still intact below fill layers. Twenty human burials were encountered; nine burials were discovered at the Pohulani Elderly Rental Housing (SIHP #50-80-14-4380), and 11 were in and around Mother Waldron Park (SIHP #50-80-14-5820). Seventeen of the burials were discovered *in situ*; three were too fragmented and disturbed for an *in situ* location to be established. Four burials were in extended supine position; seven were in fully flexed positions. Burial positions for the remaining nine burials could not be established. Seventeen of the burials were recovered and reinterred in Mother Waldron Park. Three were left in place beneath the Pohulani Elderly Rental Housing Facility (Winieski and Hammatt 2000a).

State Office Building #2 at the Corner of Punchbowl and Halekauwila Streets (Ota and Kam 1982; Clark 1987)

In 1982, six partial sets of human remains were documented during the construction of State Office Building #2 at the corner of Punchbowl and Halekauwila Streets. The remains were in poor condition, and ethnicity could not be determined for four of the six sets of remains. Two of the burials showed evidence of incisor evulsion (forcible pulling out or extraction), which was practiced by late pre-Contact Hawaiians (Ota and Kam 1982). These burials were designated SIHP #50-80-14-2963.

In 1987, seven sets of human remains were discovered during the construction of a parking garage on the corner of Punchbowl and Halekauwila Streets (Clark 1987). Four of the burials were intact with well-defined burial pits, and these were assumed to be of Hawaiian ancestry. Only one of the individuals was believed to be pre-Contact in age. These burials were incorporated into SIHP #50-80-14-2963, previously identified by Ota and Kam (1982). Additional cultural material recovered at the site included basalt tools, glass bottles, ceramic fragments, and metal objects. The Ft 10 burial was reported from a depth of 75 cmbs, but other burial depths were reported "below graded surface" (Clark 1987:63-75).

American Brewery (Hammatt and Pfeffer 1993; Winieski et al. 1996)

In 1993, CSH conducted an archaeological inventory survey at the American Brewery lot (Hammatt and Pfeffer 1993). A total of 24 backhoe trenches were excavated, specifically located in order to identify and locate the boundaries of a portion of Honuakaha Cemetery. Test excavations documented 29 coffin burial pits and 3 refuse pits associated with early 20th c. brewery activity. The majority of burials were interred in sand deposits. Historical and osteological research of Honuakaha Cemetery indicates the vast majority were native Hawaiians.

Between 1993 and 1995, CSH conducted archaeological monitoring as well disinterment of previously identified and inadvertently discovered human remains at the Honuakaha Housing Project (previously the American Brewery Site) (Winieski et al. 1996). Monitoring documented historic artifacts (bottles, metal, etc.) ranging from the 1880s to after the construction of the Brewery Building at the turn of the 20th century. Eleven sets of human remains were disinterred

from the area of the project's building footprint (considered "outlier" burials of the Honuakaha Cemetery) and an additional 14 inadvertent finds of human burials, identified during utility installation in Quinn Lane, were disinterred. The majority of documented burials were preserved in place, with the disinterred remains reinterred elsewhere within the property.

614 South Street (Avery and Kennedy 1993)

In 1993, Archaeological Consultants of Hawaii, Inc. (ACH) conducted archaeological monitoring of subsurface excavations at 614 South Street. Monitoring was required following the inadvertent disturbance of three *in situ* burials. The subject property was located over a portion of the historic Honuakaha Smallpox Cemetery (SIHP #50-80-14-3712). The excavation of trenches across the property and on Quinn Lane identified the presence of six additional *in situ* human burials. A historic trash pit dated to the early twentieth century was also identified.

All nine burials and the trash pit were included as features of the Honuakaha Smallpox Cemetery (SIHP #50-80-14-3712). All of the burials were situated in the known bounds of the cemetery and were probably interred during the smallpox epidemic of 1853 (Avery and Kennedy 1993:19). Two of the burials contained grave goods consisting of: a drilled dog's tooth pendent, a gold earring, and glass and shell beads. All of the identified burials were situated within Jaucas sand deposits.

Kaka'ako Fire Station (Winieski and Hammatt 2001b; Perzinski and Hammatt 2004; Stein et al. 2007)

In 2001, CSH conducted archaeological monitoring of seven geotechnical bores in the *makai* portion of the Kaka'ako Fire Station (Winieski and Hammatt 2001b). No human remains associated with the Honuakaha Smallpox Cemetery were observed.

In 2004, CSH conducted an archaeological inventory survey for the Kaka'ako Fire Station (Perzinski and Hammatt 2004). Twelve backhoe test trenches were excavated. No cultural resources were identified. Stratigraphy consisted of fill layers overlying natural sandy loam and sand layers which contained sparse historic trash, a sterile sand layer, and a mixed layer of sand and cinder.

Between 2004 and 2006, archaeological monitoring was conducted for the renovation of the Kaka'ako Fire Station (Stein et al. 2007). No cultural resources were documented.

Judiciary Parking Garage (Athens 1986)

In December of 1985, monitoring was conducted for the proposed Judiciary Parking Garage, at the northwest corner of Pohukaina and South Streets (Athens 1986). In the nineteenth century, this project area would have been in the *'ili* of 'Auwaiolimu, south of three fishponds. No undisturbed sand layers were noted in the excavations, and much of the area appeared to have been disturbed prior to the excavation. It is likely that the area was under water, or was intertidal in pre-Contact times, and therefore, little in the way of pre-Contact Hawaiian deposits would be found. No pre-Contact cultural deposits or artifacts were recorded, but historic artifacts were common in concentrations and scattered throughout the several fill layers exposed in the construction trenches. Soda bottles of three O'ahu bottlers were found, including the Sunrise Soda Water Works, Pacific Soda Works, and Arctic Soda Works. These blob-top bottles date between 1880 and 1915. The deposit was designated SIHP #50-80-14-3984.

Federal Judiciary Building Parking Complex (Leidemann 1988)

In 1988, the Bernice Pauahi Bishop Museum conducted archaeological monitoring for the Federal Judiciary Building parking complex (Leidemann 1988). The project area was described as on the northwest corner of Pohukaina and South Streets in the text (Leidemann 1988:1), which would make this project area the same as Athens' 1986 study area (described above). However, on their Figure 1 (Leidemann 1988:2), the project area was drawn on the northwest corner of Reed Lane and South Street, which would make this project area immediately north of the Athens' study area. Leidemann made no mention of the Athens study in her report. Clark (1987:22) stated that the project areas were the same. As in the Athens study, no undisturbed sand deposits were recorded and no pre-Contact artifacts were found. Analysis of the post-Contact artifactual material encountered determined that the most likely time frame for the manufacture and disposal of the historic artifacts found was for the years between 1880 and 1930. The deposit was designated SIHP #50-80-14-1973.

Honolulu Ironworks Burials (Yent 1985)

In 1985, five burials were uncovered at the former Honolulu Ironworks lot (Yent 1985), which is the block at the corner of Punchbowl and Pohukaina Street. The burials were found in burial pits in the sand deposit that lies under at least a meter of the ironworks fill. Two of the individuals were in an extended position. A crew from the Division of State Parks disinterred the five burials, which were later designated SIHP #50-80-14-2918. Yent's report does not contain a map, so the locations of the burials disinterred by the Division of State Parks are unknown.

Former Comp USA Parcel (Pammer and Hammatt 2010a)

No historic properties were identified within the 4.7-acre project area. The project area was observed to have undergone extensive land modification by the filling of the low lying areas of Kaka'ako.

Kamehameha Schools Block 2 Parking Lot (Pammer et al. 2011)

In 2011 CSH (Pammer, Fong, and Hammatt 2011) completed an archaeological inventory survey for a Kamehameha Schools Block 2 parking lot parcel bounded by South Street to the northwest, Halekauwila Street to the northeast, Keawe Street to the southeast, and Pohukaina Street to the southwest. A total of four historic properties were identified within the project area: SIHP #50-80-14-7124, -7189, -7190 and -7197. SIHP #50-80-14-7124 consists of 31 historic building remnants features (Features A – EE), generally located just beneath the modern layers of fill. These include brick and mortar clusters, slabs of concrete/basalt, concrete footings with metal supports, large slabs of very hard, corroded, melted metal, and pit features containing demolition debris. SIHP #50-80-14-7189 consists of a layer of burnt historic debris, suspected to be from the open-air burning of urban refuse during the early 1900s. The charred remains were then utilized to fill in the unwanted wetlands around the project area. The observed cultural materials include glass bottles, ceramics, and other domestic waste. SIHP #50-80-14-7190 consists of old salt pan remnants, presenting as an approximately 5 cm thick layer of alternating peat and clay striations. SIHP #50-80-14-7197 consists of a sandy cultural layer containing one late pre-Contact/early post-Contact fire pit feature.

Proposed Civic Center Transit Station Area (O'Hare et al. 2009)

In 2009, CSH (O'Hare, Tulchin, T., Borthwick, and Hammatt 2009) prepared an archaeological inventory survey plan for three Kamehameha Schools Kaka'ako *mauka* parcels. One of the *mauka* parcels encompasses the *makai* half of the proposed Civic Center transit station. To formulate a strategy for testing, preliminary archaeological work, in the form of subsurface testing, was conducted. Preliminary testing identified the following stratigraphic sequence: 1) fill layers consisting of mixed marine/terrestrial soil strata; layers of incinerated and un-burnt garbage with metal, glass, and ceramic fragments; crushed coral layers; volcanic cinders; and pumped/dredged marine clay layers; 2) a naturally deposited sandy clay or sandy loam; and 3) a very dark gray sandy clay with organic material representing former marsh/pond sediments of the pre-Contact and pre-Hawaiian occupation of the islands.

Halekauwila Place Project (Tulchin et al. 2009)

In 2009, CSH (Tulchin, T., Altizer, Borthwick, and Hammatt 2009) completed an archaeological assessment of the proposed Halekauwila Place project, located just *makai* of the study area, in between the proposed Civic Center and Kaka'ako transit stations. As the subject parcel was an asphalt parking lot, the assessment consisted of subsurface testing; this involved the excavation of 18 backhoe trenches. No historic properties were identified.

The stratigraphy observed within the subject parcel generally consisted of three to five layers of historic and modern fill material beneath the modern asphalt pavement and gravel base course. Naturally-deposited sediment layers (sandy clay and gleyed clay sediments typical of a wet, marsh-type environment) were generally encountered at depths approximately 0.9-1.3 m below the current land surface, within approximately 0.5-1.0 m of the water table.

Coral and Queen Streets Osteological Reports (Douglas 1991a, Douglas 1991b)

These two osteological reports analyze burial finds from a site documented as part of Kaka'ako Improvement District 3 (Winieski and Hammatt 2000a – see section on “Kaka'ako Improvement District 3” above).

In November of 1990, during construction of an elderly housing project at the southwest corner of Coral and Queen Streets, human bones were uncovered and reported to the State Historic Preservation Division (Douglas 1991a). Disinterment of the burials was recommended, and CSH then conducted excavations in November of 1990. Eight separate burials were identified on the east side of the property, with only five removed. A glass bead was found with one burial, suggesting a post-Contact date. One burial also exhibited a pre-mortem loss of the mandibular incisors, which suggests deliberate tooth evulsion. This procedure was known to have been practiced by Hawaiians in the pre-Contact and early post-Contact period. The author concluded that the burials were probably of Hawaiian ethnicity, perhaps representing a nuclear family. This burial area was later designated SIHP #50-80-14-4380. This project area is within the boundary of LCA 2045 to Kauwahi, who received the parcel in the time of Kamehameha I, indicating that this was a Hawaiian habitation area as early as the beginning of the nineteenth century.

In March of 1991, during excavation of a waterline trench between Coral and Queen Streets across Mother Waldron Park, human skeletal remains were discovered and disinterred (Douglas

1991b). The remains were determined to be of Hawaiian ancestry, with a pig burial possibly associated with the burial. These burials were considered part of SIHP #50-80-14-4380.

Intersection of Kapi'olani Blvd. and Ward Ave. (Monahan 2005)

In 2005, Scientific Consultants Services conducted an archaeological inventory survey at the *makai*/Dimaond Head corner of Kapi'olani Boulevard and Ward Avenue (Monahan 2005). Nine backhoe trenches were excavated. No archaeological cultural resources were identified.

Moana Vista Project (O'Leary and Hammatt 2006)

In 2005, CSH conducted an archaeological inventory survey for the Moana Vista Project (O'Leary and Hammatt 2006). No archaeological cultural resources were identified.

Moana Vista Project (Pammer and Hammatt 2010b)

This archaeological assessment for an approximately 0.26-acre Moana Vista project on the *makai* side of Kapi'olani Boulevard, northwest of Kamake'e Street, identified no historic properties.

Ward Theatres (Winieski and Hammatt 2001c)

In 2000, CSH conducted archaeological monitoring for the Ward Village Phase II (Ward Theatres) project (Winieski and Hammatt 2001c). Stratigraphy consisted largely of crushed coral fill and hydraulic fill overlying decomposing coral shelf. Only a few pockets of the project area exposed a buried A-horizon. No archaeological cultural resources were identified.

Kamake'e and Queen Streets Traffic Signal Project (Yamauchi et al. 2011)

In 2010, CSH conducted archaeological monitoring for the Kamake'e and Queen Street Traffic Signal project (Yamauchi et al. 2011). A buried sandy loam A-horizon was documented beneath overlying fill deposits. No archaeological cultural resources were identified.

Intersection of Kapi'olani Blvd. and Kamake'e St. (Clark and Gosser 2005; Gosser et al. 2006)

In 2004, Pacific Consulting Services conducted an archaeological inventory survey for a storage facility at the southwest corner of Kapi'olani Boulevard and Kamake'e Street (Clark and Gosser 2005). Wetland pond deposits were documented in the northern portions of the project area and considered to be a component of SIHP #50-80-14-6636, the Kewalo wetlands. Radiocarbon dating of a peat sample from the pond sediments indicated that the pond was active as late as the 1920s to 1930s.

In 2006, Pacific Consulting Services conducted archaeological monitoring. No additional archaeological cultural resources were identified.

Kaka'ako Improvement District 7 (Souza et al. 2002)

In 2000, excavation associated with the Kaka'ako Improvement District 7 construction was undertaken by CSH. Three human burials were encountered, which were severely disturbed by excavation activity (Souza, Perzinski, and Hammatt 2002). The burials' age and ethnicity are unknown, though the lack of grave goods may indicate they are pre-Contact or early post-Contact. Burial 1 (SIHP #50-80-14-6376) was inadvertently discovered by Delta Construction Company personnel on October 13, 2000 in the base yard back dirt pile. Burial 2 (SIHP #50-80-

14-6377) was encountered by a CSH archaeologist during backhoe excavations for a box drain. The burial was within an undisturbed beach sand deposit. Burial 3 (SIHP #50-80-14-6378) was recovered in the Delta Co. base yard on Pensacola Avenue and Kapi'olani Boulevard.

Kapi'olani Area Revised Sewer System (Altizer et al. 2011)

Between 2008 and 2009, CSH conducted archaeological monitoring of sewer line rehabilitation excavations throughout the Kapi'olani area (Altizer et al. 2011). Wetland marsh sediments, considered components of the Kewalo wetlands (SIHP #50-80-14-6636) were documented in the area Sewer Line G, an easement off of Pensacola Street between Ho'ola'i and Kamaile Streets. No other archaeological cultural resources were identified.

Kapi'olani Blvd. Sewer Line s(O'Leary and Hammatt 2004)

In 2004, emergency repair of a sewer line along Kapi'olani Boulevard was monitored by CSH (O'Leary and Hammatt 2004). All excavations were relatively shallow and remained within the previous sewer line utility corridor. No archaeological cultural resources were identified.

Kapi'olani Boulevard Drainage, Water, and Sewer Systems (Fong et al. 2009)

In 2009, CSH (Fong, Borthwick, and Hammatt 2009) completed archaeological monitoring of construction associated with the upgrading of existing drainage, water, and sewer systems within Kapi'olani Boulevard, from Kalākaua Avenue to Ward Avenue; within Kamake'e Street, from Kapi'olani Boulevard to Auahi Street; and within Atkinson Drive, from Kapi'olani Boulevard to Ala Moana Boulevard. No historic properties were observed.

Observed stratigraphy consisted primarily of imported fill material associated with utility and road construction. In some instances, pockets of naturally deposited sediment (Jaucas sand and wetland clays) were observed beneath fill deposits.

Kaka'ako Improvement District 4 (Winieski and Hammatt 2000b)

In 2000, archaeological monitoring by CSH for the Kaka'ako Improvement District 4 construction documented two isolated historic coffin burials (SIHP #50-80-14-5598) on Kamake'e Street, between the intersections of Kawaiaha'o and Waimanu Streets (Winieski and Hammatt 2000b). The two adjacent burials were found in undisturbed beach sand with an associated A horizon that was capped by modern fill. Well-defined burial pits were present, as well as staining from the deteriorated coffin wood. No associated artifacts, other than the coffins, were discovered during disinterment.

Victoria Ward Village Shops (Bell et al. 2006 and Sroat and McDermott 2012)

In 2006, CSH (Bell, McDermott, and O'Leary 2006) completed an archaeological inventory survey for the Victoria Ward Village Shops. Three historic properties were identified: SIHP #50-80-14-6854, a subsurface cultural layer/activity area remnant consisting of an immature pig skeleton, remnants of a historic privy, remnants of a culturally enriched A horizon (containing both historic and prehistoric cultural material), and five human burials; SIHP #50-80-14-6855, an activity area remnant, comprised of a pronounced subsurface traditional Hawaiian cultural layer that includes scallop-shaped pit features and six human burials; and SIHP #50-80-14-6856, a historic fishpond remnant, part of Land Commission Grant 3194, "Kolowalu," awarded to Kalae and Kaaua.

The supplemental archaeological inventory survey report for the Ward Village Shops Phase 2 project (Sroat and McDermott 2012) identified no new historic properties; however, further documentation of SIHP -6855 was conducted.

Hokua Tower Project (Carney and Hammatt 2008)

Between 2003 and 2005, CSH conducted archaeological monitoring for the Hokua Tower Project on Auahi Street (Carney and Hammatt 2008). Two archaeological cultural resources were identified, consisting of an isolated fragment of a human mandible found on the ground surface and of unknown provenience and a historic trash pit (SIHP #50-80-14-6765).

Queen Street Extension Project (O'Hare et al. 2006)

In 2004, CSH completed archaeological monitoring for the Queen Street Extension Project. Three historic properties were documented: SIHP #50-80-14-6658, SIHP #50-80-14-6659, and SIHP #50-80-14-6660. SIHP #50-80-14-6658 is a cluster of 28 burials within the Queen Street extension. Seventeen of the 28 burials were determined to be of Hawaiian ethnicity, based on the types of grave goods, the presence of tooth ablation, and a traditional burial position (flexed vs. extended). The ethnicity of the remaining 11 could not be definitively determined, but it is assumed that most of these were also Hawaiian since this area of Kaka'ako was not inhabited by other ethnic groups until the twentieth century. All grave goods were historic; most were dated to the mid-to-late nineteenth century. It is possible that many of these individuals were victims of the 1853 smallpox epidemic or one of the other epidemics that decimated the Hawaiian population in the last half of the nineteenth century. SIHP #50-80-14-6659 consists of two isolated burials in a previously disturbed stratigraphic context. The age or ethnicity of these burials could not be determined. SIHP #50-80-14-6660 is a discrete historic dump area containing bottles dated to the early twentieth century (O'Hare, Bush, and Hammatt 2006). The burials were typically encountered at depths of 88-118 cmbs (inference from reported stratigraphy—see O'Hare, Bush, and Hammatt 2006:73 and 76). The burials were reinterred in a reburial vault in the immediate vicinity on the *mauka* side of Queen Street.

Queen Street Parks Project (Thurman et al. 2009)

In 2009, CSH (Thurman, Altizer, O'Hare, Shideler, and Hammatt 2009) completed an archaeological inventory survey for the Queen Street Parks project. Fieldwork involved the excavation of 29 backhoe trenches. One previously identified historic property was recorded: SIHP 50-80-14-6856, a historic fishpond remnant, originally identified by Bell et al. (2006).

Documented stratigraphy consisted of varying layers of fill overlying various naturally deposited sediments atop the coral shelf. The fill consisted of imported terrigenous sediment, incinerator material containing burnt and unburnt historic refuse, crushed coral, and hydraulic pump dredge. Natural sediments consisted primarily of backshore marsh or pond sediments associated with SIHP -6856 ("Kolowalu" fish pond). Naturally deposited Jaucas sand deposits were also observed.

Ko'olani Condominium (O'Hare et al. 2004 and Hammatt 2008)

In 2003, CSH (O'Hare, Bush, Borthwick, and Hammatt 2004) conducted an archaeological inventory survey for the Ko'olani Condominium parcel in the Kewalo area, Honolulu. Two previously unrecorded historic properties were found. SIHP #50-80-14-6639 and SIHP #50-80-14-6641 are historic trash pits dating from the early twentieth century. In addition, one

previously recorded historic property, the original wetland surface of Kewalo (SIHP #50-80-14-6636), was documented (O'Hare, Bush, Borthwick, and Hammatt 2004).

In 2008, CSH (Hammatt 2008) completed archaeological monitoring associated with the development of the Ko'olani Towers Phase I, located in Kaka'ako, west of Waimanu Street and mid-block between Kamake'e Street and Pi'ikoi Street. Three historic properties were identified: SIHP #50-80-14-6910, a single pre-Contact burial; SIHP #50-80-14-6911, a cluster of 16 historic coffin burials believed to comprise a discrete cemetery; and SIHP #50-80-14-6912, a single burial (the total number of burials encountered was 18). In addition, various historic trash deposits were observed throughout their study area but were not considered eligible for the Hawai'i Register of Historic Places (Hammatt 2008). Burials were reported at depths of 60 cmbs, 78 cmbs, and 100 cm below surface, but no depths are reported for most burials (owing to removal of the former ground surface in the vicinity prior to burial discovery). Eight of the burials were left in their original place of interment, with most of the rest relocated closer to the burials left in place.

Phase II Portion of the Ko'olani Condominium (Tulchin and Hammatt 2005)

In 2005, an inventory survey was conducted by CSH (Tulchin, T. and Hammatt 2005) for the Phase II portion of the Ko'olani Condominium parcel in the Kewalo area of Honolulu. Two historic properties were identified: SIHP #50-80-14-6636, original wetland surface of Kewalo area, and SIHP #50-80-14-6641, historic garbage layer. Both were previously identified by O'Hare et al. (2004) (see section discussing "Ko'olani Condominium" above)..

Waihonua (Runyon et al. 2011)

In 2011, CSH (Runyon, Thurman, O'Hare, Borthwick, and Hammatt 2011) completed an archaeological inventory survey for the Ko'olani Phase II (re-named Waihonua) project (located just *mauka* of the Tulchin, T. and Hammatt 2005 project area). Five historic properties—two previously documented and three newly identified—are documented within the project area. During a prior archaeological inventory survey investigation (Tulchin, T. and Hammatt 2005 – see section discussing "Phase II Portion of the Ko'olani Condominium" above), eight trenches were excavated within the southern portion of that project area. The investigation documented a layer of burnt trash, which dated from the 1880s to 1920s and was designated SIHP (State Inventory of Historic Properties) # 50-80-14-6641, located in the southern portion of that project area. Additionally, buried Kewalo wetland sediment was documented in the southern portion of the Waihonua project area and was designated SIHP #50-80-14-6636.

Based on the current investigation, the boundary of SIHP #-6641 was expanded. The three newly documented historic properties included:

SIHP #50-80-14-7115, a buried culturally enriched sand A-horizon (cultural layer) containing multiple pit features and pre- and post-Contact artifacts located throughout the west half of the Waihonua project area;

SIHP #50-80-14-7116, a buried low-energy alluvial layer (gleyed sediment) corresponding geographically to a documented historic pond, located in the northern portion of the project area; and

SIHP #50-80-14-7117, a concentration of 27 post-Contact human burials, located in the western portion of the Waihonua project area.

Senior Residence at Pi'ikoi (Runyon et al. 2012)

In 2012, CSH (Runyon, Borthwick, and Hammatt 2012) completed an archaeological inventory survey for the Senior Residence at Pi'ikoi. One historic property was identified: SIHP #50-80-14-6636, consisting of buried Kewalo wetland sediments found in all test trenches in that project area. The site has been previously documented in nearby areas in Kaka'ako (O'Hare et al. 2003, O'Hare et al. 2004, Tulchin, T. and Hammatt 2005, and Runyon et al. 2011).

Rehabilitation of Streets Unit 5B on Pi'ikoi Street (Esh and Hammatt 2006)

In August 2004, CSH conducted archaeological monitoring for the Rehabilitation of Streets Unit 5B on Pi'ikoi Street between Ala Moana Boulevard and Matlock Street (Esh and Hammatt 2006). No historic properties were observed.

Pi'ikoi Street and Kapi'olani Blvd. Intersection (O'Hare et al. 2003)

In 2003, CSH conducted an archaeological inventory survey at a property on the corner of Pi'ikoi Street and Kapi'olani Boulevard (O'Hare et al. 2003). Stratigraphy consisted of landscape, construction, and/or coral and sand fill sediments over natural wetland clay sediments. The fill deposits contained historic artifacts dating to the 1920s and 1930s. Four subsurface features were identified: Feature 1, a pit feature containing broken ceramic insulators; Feature 2, a trash pit containing 1920s and 1930s historic artifacts; Feature 3, a trash pit containing wood and concrete; and Feature 4, an artificially constructed sand berm with a concentration of coral boulders at the east side, possibly representing a retaining wall for the berm. A wooden fence post was also found on the other side of the coral rock pile, possibly representing a property boundary, rice field boundary, or a trail edge. Feature 4 is considered part of SIHP #50-80-14-6636, the Kewalo wetlands.

Inadvertent Remains at the Pi'ikoi and Kapi'olani Intersection (Athens et al. 1994)

In 1994, an inadvertent discovery of human skeletal remains was made during utility excavations at the corner of Pi'ikoi Street and Kapi'olani Boulevard (Athens et al. 1994). The remains consisted of a single individual, a young female 12-15 years of age. The remains were documented within a wetland environment and believed to represent an unattended death, or non-intentional burial. Radiocarbon analysis of bone collagen yielded a date of death of between AD 1295-1473. Osteological analysis identified a severe bone infection of the right pubis and the probable cause of death.

4.4 Kālia

Previous archaeological studies in the immediate vicinity of the Kālia portion of the project corridor are summarized in Table 10 and depicted in Figure 76. The archaeological studies in the Kālia area are summarized below.

Kapi'olani Area Revised Sewer System (Altizer et al. 2011)

Between 2008 and 2009, CSH conducted archaeological monitoring of sewer line rehabilitation excavations throughout the Kapi'olani area (Altizer et al. 2011). Wetland marsh sediments, considered components of the Kewalo wetlands (SIHP #50-80-14-6636) were documented in the area Sewer Line G, an easement off of Pensacola Street between Ho'ola'i and Kamaile Streets. No other archaeological cultural resources were identified.

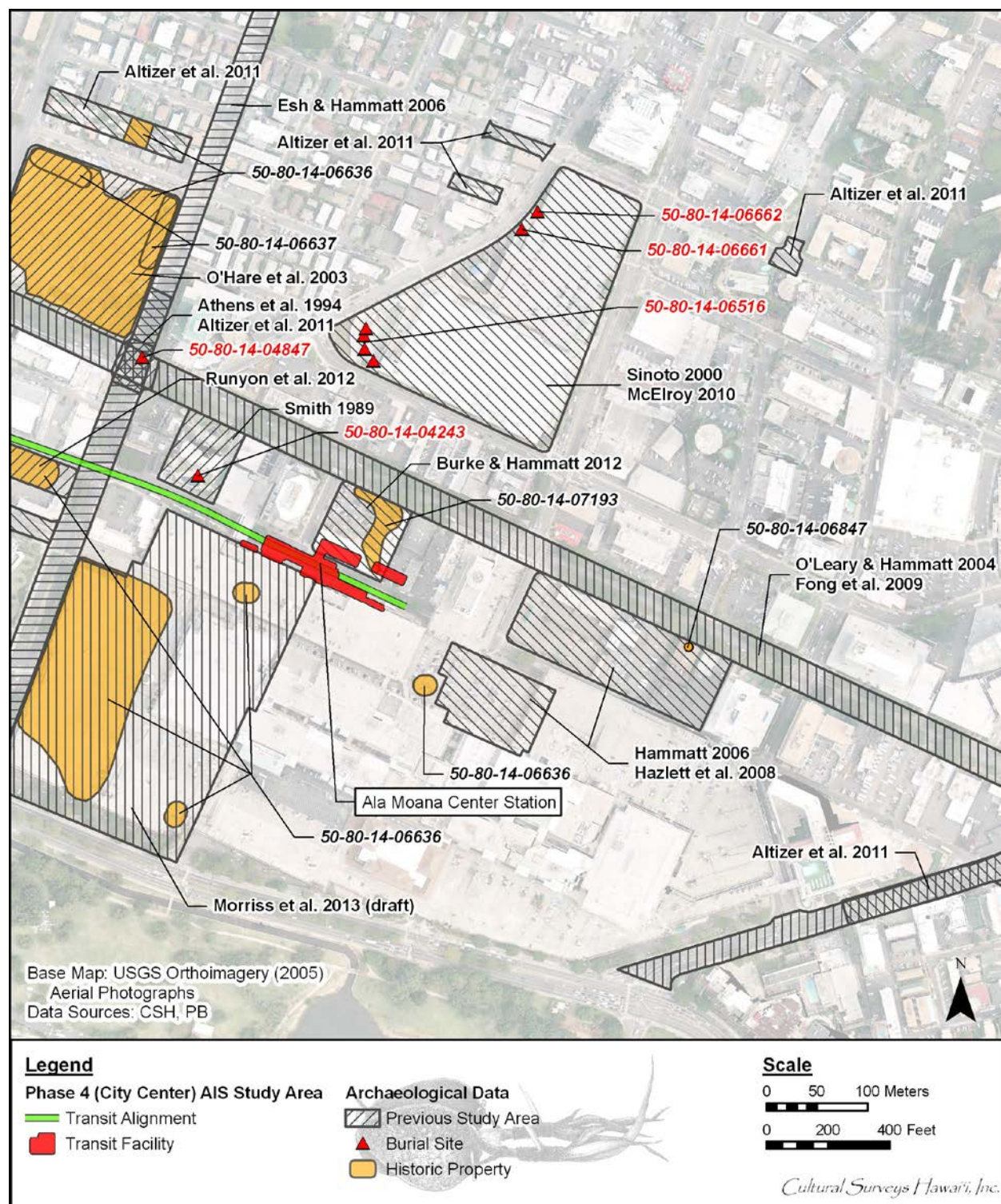


Figure 76. Previous archaeological studies in the general vicinity of the Kālia end of the project corridor

Table 10. Previous Archaeological Studies in the Immediate Vicinity of the Kālia Portion of the Study Corridor (arranged chronologically)

Author	SIHP #50-80-14	Report Description and Findings
Smith 1989	-4243	Inadvertent burial find - SIHP #50-80-14-4243 (bone fragment) <i>makai</i> of Kapi'olani Blvd., southeast of Pi'ikoi St.
Athens et al. 1994	-4847	One set of human remains documented within a wetland environment, believed to represent a pre-Contact unattended death (SIHP #50-80-14-4847)
Sinoto 2000	NA	This archaeological assessment of a "Superblock" (present St. Sam's Club/Wal-Mart) noted that some remains may still be present
O'Hare et al. 2003	-6636	Inventory survey at the corner of Pi'ikoi St. and Kapi'olani Blvd. – documented 4 features consisting of 2 historic trash pits, a pit containing ceramic insulators, and an artificially constructed sand berm with a possible coral retaining wall and a wooden fence post. The sand berm feature was designated part of SIHP #50-80-14-6636.
O'Leary and Hammatt 2004	NA	This archaeological monitoring report addressed Kapi'olani Blvd. from Kalākaua Ave. to Kamake'e St. but reported no significant finds.
Hammatt 2006	-6847	Inventory survey for Ala Moana <i>mauka</i> expansion - One historic property observed: SIHP #50-80-14-6847, post-Contact trash deposit
Esh and Hammatt 2006	NA	Monitoring for the Rehabilitation of Streets Unit 5B on Pi'ikoi Street between Ala Moana Boulevard and Matlock Street - No cultural resources observed
Hazlett, Loynaz, and McDermott 2008	NA	Monitoring of the Ala Moana expansion project - No historic properties encountered
Fong, Borthwick, and Hammatt 2009	NA	This archaeological monitoring report addressed Kapi'olani Blvd. from Atkinson Dr. to Kamake'e St. but reported no significant finds.
McElroy 2010	-6516; -6661; and -6662	This after-the-fact archaeological monitoring report documents human remains (MNI = 64) found in six areas, assigned SIHP #s 50-80-14-6516, -6661, and -6662. Both pre-Contact and post-Contact burials
Altizer et al. 2011	-6636 (a kilometer north)	This archaeological monitoring report for the Kapi'olani area revised sewer system documented SIHP #50-30-14-6636, a wetland deposit, in Sewer Line G, near Kamaile Street, far from the present project area.

Author	SIHP #50-80-14	Report Description and Findings
Burke and Hammatt 2012	7193	1391 Kapi'olani Boulevard Parcel - archaeological inventory survey for a 1391 Kapi'olani Boulevard parcel involving 22 test excavations. SIHP #50-80-14-7193, a historic trash layer dating from the 1930s to the 1950s, was documented.
Runyon, Borthwick, and Hammatt 2012	-6636	Archaeological inventory survey for the Senior Residence at Pi'ikoi. SIHP #50-80-14-6636 consists of buried Kewalo wetland sediments, found in all test trenches in the project area. The site has been previously documented in nearby areas in Kaka'ako (O'Hare et al. 2003, O'Hare et al. 2004, Tulchin, T. and Hammatt 2005, and Runyon et al. 2011).
Morriss, Hunkin, and McDermott 2013 (draft)	-6636	Archaeological inventory survey for the Ala Moana Center 'Ewa Mall Expansion Project. Identified SIHP #50-80-14-6636, buried Kewalo wetland sediments, and possible salt pan remnants (however further investigation was deemed necessary to confirm).

Pi'ikoi Street and Kapi'olani Blvd. Intersection (O'Hare et al. 2003)

In 2003, CSH conducted an archaeological inventory survey at a property on the corner of Pi'ikoi Street and Kapi'olani Boulevard (O'Hare et al. 2003). Stratigraphy consisted of landscape, construction, and/or coral and sand fill sediments over natural wetland clay sediments. The fill deposits contained historic artifacts dating to the 1920s and 1930s. Four subsurface features were identified: Feature 1, a pit feature containing broken ceramic insulators; Feature 2, a trash pit containing 1920s and 1930s historic artifacts; Feature 3, a trash pit containing wood and concrete; and Feature 4, an artificially constructed sand berm with a concentration of coral boulders at the east side, possibly representing a retaining wall for the berm.

Kapi'olani Area Revised Sewer System (Altizer et al. 2011)

Between 2008 and 2009, CSH conducted archaeological monitoring of sewer line rehabilitation excavations throughout the Kapi'olani area (Altizer et al. 2011). Wetland marsh sediments, considered components of the Kewalo wetlands (SIHP #50-80-14-6636) were documented in the area Sewer Line G, an easement off of Pensacola Street between Ho'ola'i and Kamaile Streets. No other archaeological cultural resources were identified.

Pi'ikoi Street and Kapi'olani Blvd. Intersection (O'Hare et al. 2003)

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Feature 2, a trash pit containing 1920s and 1930s historic artifacts; Feature 3, a trash pit containing wood and concrete; and Feature 4, an artificially constructed sand berm with a concentration of coral boulders at the east side, possibly representing a retaining wall for the berm. A wooden fence post was also found on the other side of the coral rock pile, possibly representing a property boundary, rice field boundary, or a trail edge. Feature 4 is considered part of SIHP #50-80-14-6636, the Kewalo wetlands.

Senior Residence at Pi'ikoi (Runyon et al. 2012)

In 2012, CSH (Runyon, Borthwick, and Hammatt 2012) completed an archaeological inventory survey for the Senior Residence at Pi'ikoi. One historic property was identified: SIHP #50-80-14-6636, consisting of buried Kewalo wetland sediments found in all test trenches in that project area. The site has been previously documented in nearby areas in Kaka'ako (O'Hare et al. 2003, O'Hare et al. 2004, Tulchin, T. and Hammatt 2005, and Runyon et al. 2011).

Inadvertent Remains at the Pi'ikoi and Kapi'olani Intersection (Athens et al. 1994)

In 1994, an inadvertent discovery of human skeletal remains was made during utility excavations at the corner of Pi'ikoi Street and Kapi'olani Boulevard (Athens et al., 1994). The remains consisted of a single individual, a young female 12-15 years of age. The remains were documented within a wetland environment and believed to represent an unattended death, or non-intentional burial. Radiocarbon analysis of bone collagen yielded a date of death of between AD 1295-1473. Osteological analysis identified a severe bone infection of the right pubis and the probable cause of death.

Rehabilitation of Streets Unit 5B on Pi'ikoi Street (Esh and Hammatt 2006)

In August 2004, CSH conducted archaeological monitoring for the Rehabilitation of Streets Unit 5B on Pi'ikoi Street between Ala Moana Boulevard and Matlock Street (Esh and Hammatt 2006). No historic properties were observed.

Ala Moana Center 'Ewa Mall Expansion Project (Morriss et al. 2013 – draft)

In 2012, CSH conducted an archaeological inventory survey for the Ala Moana Center 'Ewa Mall Expansion Project (Morriss et al. 2013 - draft). The majority of the project area documented wetland sediments beneath extensive layers of reclamation fill. The wetland sediments, designated SIHP #50-80-14-6636, were previously documented in O'Hare et al. 2003, O'Hare et al. 2004, Tulchin, T. and Hammatt 2005, Runyon et al. 2011, and Runyon et al. 2012. Pollen and phytolith analysis indicated a sedge marshland environment. Possible salt pan sediments were also documented within nine test excavations; however, further investigations were recommended in order to definitively identify these sediments as salt pan remnants rather than land reclamation fill.

Kona Street Iwi (Smith 1989)

In 1989, four bone fragments were found by construction workers in a property (TMK 2-3-39:19) just *mauka* (approximately 20 m) of Kona Street (toward Kapi'olani Boulevard) and just east (80 m?) of Pi'ikoi Street (toward Kona Iki Street). The precise location and depth of the find are unclear, as the bone fragments had been disinterred prior to the visit of the State archaeologist. The find was reported to Marc Smith (1989) of SHPD. Smith examined the bones and determined that only one was human; the others were pig bones. The human bone was a

right tibia shaft fragment. The human bone was temporarily taken to the Honolulu SHPD office, and the location was given the designation of SIHP #50-80-14-4243. The project supervisor “expressed an interest in the later return of the bone to be reburied on site at the end of the project” (Smith 1989:1). The final resting place of the bone is unclear.

1391 Kapi‘olani Boulevard Parcel (Burke and Hammatt 2012)

CSH carried out an archaeological inventory survey for a 1391 Kapi‘olani Boulevard parcel involving 22 test excavations. SIHP #50-80-14-7193, a historic trash layer dating from the 1930s to the 1950s was documented.

Walmart/Sams Club (Sinoto 2000, Sinoto and Pantaleo 2002, and McElroy 2010)

Aki Sinoto Consulting conducted an archaeological assessment (Sinoto 2000) and prepared an archaeological monitoring plan (Sinoto and Pantaleo 2002) for Makaloa-Sheridan Sam’s Club/Wal-Mart Project. Archaeological monitoring of the project was conducted from 2002 to 2004 (McElroy 2010). Human remains (MNI = 64) (SIHP #50-80-14-6516, -6661, and -6662) were observed in six areas throughout the project parcel. They appear to represent both pre-Contact and post-Contact burials.

Kapi‘olani Boulevard Monitoring (O’Leary and Hammatt 2004 and Fong et al. 2009)

O’Leary and Hammatt (2004) and Fong, Borthwick, and Hammatt (2009) report archaeological monitoring along Kapi‘olani Boulevard, but the subsurface impacts of the two projects were relatively light, and no historic properties are reported.

Ala Moana Mauka Expansion (Hammatt 2006 and Hazlett et al. 2008)

In late 2005 and early 2006, an archaeological inventory survey of the Ala Moana Expansion property (TMK: 1 2-3-38: 001 and 2-3-40: 005, 007, 009, 011, 014, 016, and 018) was conducted by CSH (Hammatt 2006). The investigation’s 30 backhoe trenches revealed no Jaucas sand deposits within the property. The natural land surface, prior to historic/modern fill episodes, was either sandy clay or a highly organically enriched peaty layer. The natural “pre-fill” land surface had been completely removed by prior construction-related disturbances within large portions of the parcel. One historic resource (SIHP #50-80-14-6847) was found, consisting only of a wooden box placed in a pit cut down into the sandy-clay former land surface. The box contained a mix of historic artifacts, including, among other things, printed material, wooden chopsticks, pig bone, and a horse brush. It was dated to the late nineteenth or early twentieth century.

Between 2006 and 2007, CSH (Hazlett, Loynaz, and McDermott 2008) conducted archaeological monitoring for the Ala Moana expansion project (TMK: 1 2-3-38: 001 and 2-3-40: 005, 007, 009, 011, 014, 016, and 018). Within the *mauka* parcel of the project area (adjacent to Kapi‘olani Boulevard), natural stratigraphy was observed beneath imported construction fill, consisting of a discontinuous sandy loam A horizon overlying varying layers of naturally deposited sediments, consisting of loams and clays, indicative of the marsh environment that preceded the land reclamation and subsequent development of the area. Within the *makai* parcel of that project area, imported fill extended to an undetermined depth below the water table. No historic properties were observed.